Pathophysiology

- Repetitve Wrist extension causes micro tearing of CEO
- Common tendon affected is ECRB (hypovascular)
- Chronic cases- inflammatory cells are absent
- Failure of the natural healing process (angioblastic degneration)

Demographics

- Usually in 4th/5th decade of life
- Affects men and women equally
- Most of the time it presents in dominant arm

Risk Factors

- Repeated wrist extension and forearm supination/pronation
- Occupations/activies: carpenters, bricklayers, seamstresses, tailor, pianists, drummers, people who shake hands alot, tennis players.prolonged keyboard/mouse usage
- Tennis rplayers - improper mechanics during backhands/serves
- Ask about racquet: Heavy/new/tightly strung, excessive gripping, hitting wet/heavy tennisballs

Presentation

- Insidious after overuse activity - usually no trauma
- Pain over lateral aspect of elbow
- Provoked by activities that involve gripping/wrist extension
- Relieved by rest
- Usually localised - but consider peripheral neuropathy (radial tunnel) if distal symptoms (nocturnal pain more common in radial tunnel than LE)
- Pain on palpation of lateral epicondyle (over ECRB tendon 2nd one down)
- Pain on RROM - wrist extension
- +ve Cozen's, +ve long finger extension test
- Consider Anconeus TrPs
- Neurological exam normal unless radial tunnel syndrome(diminished sensitivity over dorsal aspect of the forearm/thumb and weakness of thumb extension

DASH/PRTEE

Imaging

Further imaging if red flags: F# , dislocation, infection, hx of trauma, neoplasm

US (can reveal asymptomatic damage at ECBR) - can pick up calcific tendinitis

DDx

- Cx radiculopathy
- Radial Tunnel syndrome
- OA
- F#
- Infection
- Neoplasm
- Osteochondral loose body
- Elbow synovitis
- Triceps tendinitis
- Sprain/strain
- Myofascial pain syndrome
- inflammatory Arthropathy

Management

- Rest and avoidance of offending activity (wrist ext, pronation/supination)
- Ice/Ice massage
- Change mechanics (2 handed backstroke)
- EMT/mobilisation of the elbow and wrist
- SMT of Cx Tx
- Deep friction massage of tendon
- STM and stretching of wrist extensors and supinator
- ECRB stretched by elbow extension, forearm pronation and wrist flexion
- Slow and progressive (moderate effort and low reptitiions) - assessed by night pain (increased = load is excessive)

Progression advances when patient tolerates a given level of tensile load

- Resistance training - isometrically then eccentric
- Tyler twist with theraband flexbar
- Scapular stability deficits
- Ultrasound treatment
- Oral/topical NSAIDs
- Corticosteriod injections
- Surgical consideration/poor prognosis of conservative care if: failure of conservative care, heavy manual labour, LE in dominant arm, high pain perception, poor coping strats

Medial Epicondylopathy

- Pronator teres, FCR, Palmaris Longus, FDS, FCU
- Most frequent cause of medial elbow pain

Causes

- Repetitive flexion and pronation and valgus stress
- Injuries (trauma, excessive stretch, eccentric overload)
- Microtearing - disorganised healing process, failure to regenerate
- FCR and pronator teres origin most commonly affected
- Affects men and women equally
4th and5th decade
Dominant arm mostly affected
athletes (golfers - top of their back swing until ball impact, baseball players (acceleration phase of throwing), racquet sports , bowling, javelin throwing, football, archery, weight lifting
- Occupations that require repetitive flexion and pronation
- Obesity
- Smoking
- Type II diabetes

Presentation

- Dull pain over medial elbow
- Grip weakness
- Swelling often present
- TTP over <1 finger breadth distal and anterior to the centre of the medial epicondyle
- Pain during resisted forearm pronation + resisted wrist flexion + resisted elbow flexion (in chronic cases)
- Ulnar neuritis, Cubital tunnel syndrome and UCL instability (moving valgus stress test) must be considered

Imaging

- Only if unresponsive to conservative care/trauma (rule out avulsion f#)
- MRI for stress f#. infections, tumours, ligamentous injuries and osteochondritis dissecans
- US for ruling in medial epicondylopathy

DDx

- Cubital tunnel syndrome
- Little league elbow (children)
- Muscle strain
- Cx radiculopathy
- F#
- Infection
- Neoplasm
- Bursitis

DDx (cont)

- Flexion contracture
- Pronator Quadratus syndrome
- Intraarticular injury
- Osteochondritis dissecans
- Anterior interosseous nerve entrapment
- Rheumatologic disease

Management

- Prone to recurrence, prolonged discomfort present
- Rest , ice/ice massage NSAIDs for acute cases
- If chronic - bracings (counter force), eccentric rehab, activity modification
- Limitation/stopping offending activity
- Cock up wrist splints for night time
- Myofascial/stretching of common flexor tendon
- Mobilisation/manipulation into ext if flexion contracture
- SMT/EMT of the Cx, elbow, wrist and shoulder
- Moderate efforts with low reps on rehab
- Stretching then strengthening
- Reverse tyler twists
- Surgery if unresponsive to conservative care after 3-6 months

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