COMMON HAND PROBLEMS

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NATIONAL HAND SPECIALISTS

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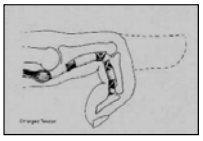
Topics

- Tendonitis
- Peripheral Nerve Compression
- Dupytren's Contracture
- Infection

TRIGGER FINGER

- Stenosing Tenosynovitis
- Secondary Causes: Rheumatoid Arthritis, Diabetes, Metabolic Disorders
- Congenital



TRIGGER FINGER

- Thumb > Fingers CTQ
- Tender over A1 pulley
- Palpable nodule in the flexor sheath
- Locking
- PIP flexion contracture
- Pathology: cuboidal-like "cartilage" cells

CONGENITAL TRIGGER DIGIT

- Thumb most common
- "Notta's Node"
- Frequent late presentation
- 25% bilateral
- 30% spontaneous resolution
- Surgery > 3 years CTQ

TRIGGER FINGER

CONSEVATIVE TREATMENT

- Corticosteroid injection
- Inject < 3 per year
- Intrasheath = Subcutaneous
- Least successful if digit locked
- Splint and NSAIDS

TRIGGER FINGER
SURGICAL TREATMENT

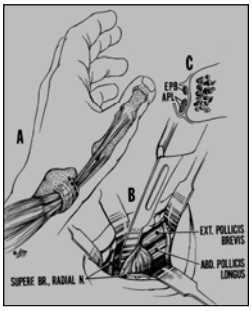
- Release A1 pulley
- Avoid A2 or Oblique pulley
- Transverse or Longitudinal incision
- Avoid RDN in thumb CTQ
- Rheumatoids: flexor tenosynovectomy not A1 pulley release CTQ

TRIGGER FINGER
PERCUTANEOUS RELEASE

- Higher complication rate
- Incomplete release up to 50%
- Experimental

DEQUERVAIN'S TENOSYNOVITIS
SYMPTOMS

- Radial wrist pain
- Female > Male
- 30 - 50 years old
- Postpartum



RADIAL WRIST PAIN
DEQUERVAIN'S DIFFERENTIAL

- CMC Arthritis
- Wartenberg's Syndrome
- Scaphoid fracture
- Trigger thumb

DEQUERVAIN'S TENOSYNOVITIS
PHYSICAL FINDINGS

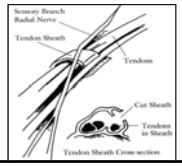
- Tender First Extensor Compartment
- Positive Finkelstein Test
- Negative Grind Test

DEQUERVAIN'S TENOSYNOVITIS
CONSERVATIVE TREATMENT

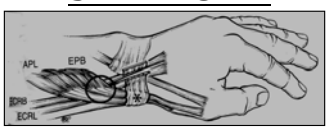
- Thumb spica splint
- Corticosteroid Injection
  (10 mg kenalog & marcaine)
- Avoid subcutaneous injection

DEQUERVAIN'S TENOSYNOVITIS SURGICAL TREATMENT

- Incise sheath dorsally
- Separate compartment for APL and EPB CTQ
- Multiple slips of APL CTQ
- Avoid Radial Sensory Nerve



INTERSECTION SYNDROME



- Tenosynovitis of second extensor compartment
- Swelling over muscle bellies of APL and EPB
- Crepitus with wrist flexion and extension

INTERSECTION SYNDROME

- Rx: Injections and Splinting
- Rarely requires surgery:
  Release of extensor retinaculum over second compartment

LATERAL EPICONDYLITIS SYMPTOMS

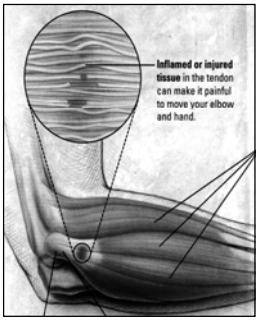
- Lateral elbow pain
- Most patients are not tennis players
- Symptoms may last over two years
- R/O Intraarticular pathology

LATERAL EPICONDYLITIS PHYSICAL EXAM

- Tender anterior to lateral epicondyle
- Pain on resisted wrist extension
- No stiffness or instability
- R/O Radial Tunnel Syndrome

LATERAL EPICONDYLITIS PATHOLOGY

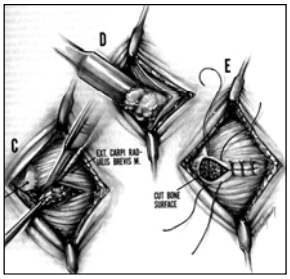
- ECRB Degeneration
- No Inflammation
- Angiofibroblastic Hyperplasia CTQ



LATERAL EPICONDYLITIS
CONSERVATIVE TREATMENT

- Injection, Splinting and Therapy
- Relief: 55 - 89%
- Recurrence: 18 - 54%
- Surgery: 5%

LATERAL EPICONDYLITIS
SURGICAL TREATMENT



LATERAL EPICONDYLITIS
SURGICAL TREATMENT

- Debride Degenerative Tissue
- Partial Lateral epicondylectomy
- Avoid Sensory Nerve or collateral ligament
- Postoperative immobilization x 10 days
- > 90% success
- Arthroscopic Release?

PERIPHERAL NERVE COMPRESSION

- Reduced Epineural Blood Flow
- > 30 mm Hg Pressure
- Systemic Causes: Diabetes, Hypothyroidism, Alcoholism, or Industrial Solvents
- Mechanical Causes: Vibration, Repetitive Activities, Weightbearing

CARPAL TUNNEL SYNDROME

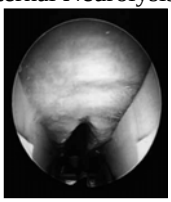
- Median nerve numbness
- Thenar Weakness
- Carpal abnormalities i.e. distal radius fx
- Not all patients require wrist xrays
- Positive tinel's, phalen's or median nerve compression test

CARPAL TUNNEL SYNDROME

- Steroid Injection: 80% transiently better, 22% better at one year
- No definite improvement with Vit B6
- Recommend Nerve studies for ALL patients

CARPAL TUNNEL RELEASE

- Open vs Endoscopic
- NO role for Ulnar Nerve Neurolysis CTQ
- NO role for Internal Neurolysis CTQ



CARPAL TUNNEL SYNDROME
ENDOSCOPIC RELEASE

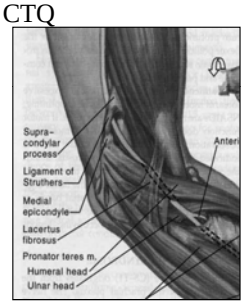
- Shorter initial recovery: 3 vs 6 weeks
- Less palmar pain
- Lower recurrence rate?
- Equivalent results at 4 months
- No difference in complication rate
- One portal technique safer!
- Higher rate of incomplete release CTQ

PRONATOR SYNDROME
SYMPTOMS

- Numb over thenar eminence
- No night pain
- Elbow xray to rule out a supracondylar process

PRONATOR SYNDROME
SITES OF COMPRESSION

- Ligament of Struthers CTQ
- Lacertus Fibrosis
- Pronator Teres
- Flexor Digitorum Superficialis



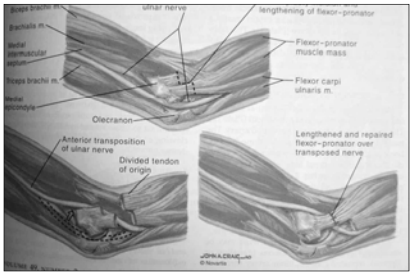
ANTERIOR INTEROSSEOUS SYNDROME

- No Sensory disturbance
- Spontaneous onset
- Motor loss
- Viral etiology?
- Surgical treatment?
- R/O Parsonage-Turner Syndrome
- Nerve testing uniformly positive

CUBITAL TUNNEL SYNDROME
SITES OF COMPRESSION

- Arcade of Struthers CTQ
- Anconeous Epitrochlearis
- Medial head of Triceps
- Osborne's Fascia MOST COMMON
- Flexor Carpi Ulnaris origin
- Ganglia of the Elbow Joint
- Subluxation of the Ulnar Nerve

CUBITAL TUNNEL SYNDROME

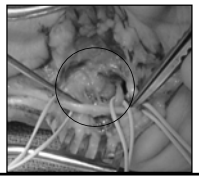


CUBITAL TUNNEL SYNDROME SURGICAL TREATMENT

- Excise intramuscular septum
- Best results with submuscular transposition
- Highest recurrence rate with insitu decompression
- Medial epicondylectomy: elbow instability and greatest stiffness

ULNAR TUNNEL SYNDROME

- Hook of Hamate Nonunion
- Ulnar Artery Thrombosis
- Ganglia in Guyon's Canal
- Decompression rarely indicated at the time of carpal tunnel release



RADIAL TUNNEL SYNDROME SITES OF COMPRESSION

- Fibrous Bands over radial head
- Leash of Henry
- ECRB origin
- Arcade of Frohse CTQ
- Supinator

RADIAL TUNNEL SYNDROME DIAGNOSIS

- Nerve Studies positive in 1% pts CTQ
- Exam: Tender over supinator
  Pain with resisted supination, passive pronation & wrist flexion, or resisted middle finger extension
- Confirm by Radial Nerve Block

RADIAL TUNNEL SYNDROME SURGERY

- Muscle Splitting approach preferred
- Anterior incision affords greatest exposure
- Dorsal incision rarely used
- May be combined with Lateral Epicondylitis surgery

THORACIC OUTLET SYNDROME

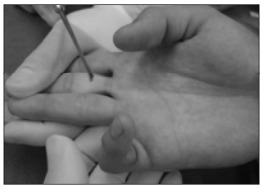
- Neurovascular compression between the first rib and the scalenes
- 95% Neurologic, 5% Vascular CTQ
- Diagnosis of exclusion
- Testing: Supraclavicular Tinel's, Roos, Wrights, and Military Bracing
- Adson's test unreliable

THORACIC OUTLET SYNDROME SURGICAL RESULTS

- Most surgeons prefer first rib excision over isolated scalenectomy
- 80% Improvement
- 10% Recurrence Rate
- Higher complication rate with first rib resection (pneumothorax 40%)
- Equivlant results supraclavicular and transaxillary

DUPYTREN'S DISEASE ETIOLOGY

- Myofibroblast
- Hypoxia
- Oxygen free radicals
- PDGF



DUPYTREN'S DISEASE ASSOCIATED CONDITIONS

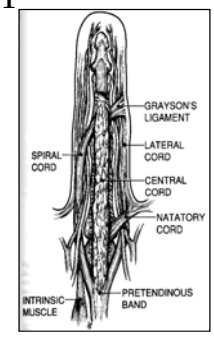
- Alcoholism
- Diabetes
- Seizures
- Ledderhose Disease
- Peyronie's Disease

DUPUYTREN'S DISEASE DIATHESIS

- Age < 40 years
- Positive family history
- Bilateral disease
- Knuckle pads and Ledderhose

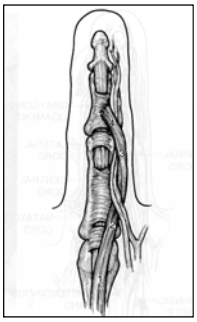
DUPUYTREN'S DISEASE ANATOMY

- Band= Normal, Cord=Abnormal
- Pretedinous
- Natatory
- Transverse palmar fascia
- Lateral
- Grayson
- Retrovascular



SPIRAL CORD CTQ

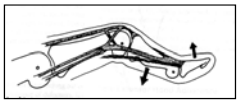
- Pretendinous
- Spiral band
- Lateral digital sheath
- Graysons



DUPUYTREN'S DISEASE
SURGICAL INDICATIONS

- MP flexion > 30 degrees
- PIP flexion (> 20 degrees ?)
- Limited vs. Regional Fasciectomy
- Open palm technique (Save transverse fibers of palmar fascia)
- Needle aponeurotomy: safe but has a high recurrence
- Collagenase injections not FDA approved
- Skin graft prevents recurrence?
- Recurrence 26 - 80%

BOUTONNIERE DEFORMITY



- PIP flexion and DIP hyperextension
- Causes: Central Slip Rupture or PIP Synovitis
- Lateral Bands slide volar
- Oblique Retinaculum Ligament tightness

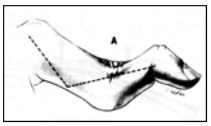
BOUTONNIERE DEFOMITY TREATMENT

- Conservative
- Supple vs. Fixed
- Finger cast vs. splint

BOUTONNIERE DEFORMITY
SURGICAL TREATMENT

- Tendon Reconstruction
- Central Slip Advancement
- Lateral Band Transfer
- Extensor Tenolysis
- Extensor Tenotomy

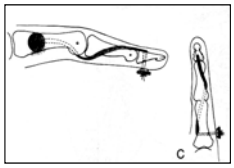
SWAN NECK DEFORMITY



- Hyperextension of PIP and flexion of DIP
- Causes: Mallet, Volar plate rupture, Ligamentous laxity, Intrinsic Tightness
- Lateral bands shift dorsal

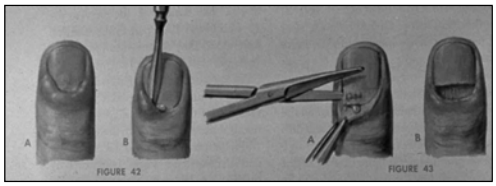
SWAN NECK DEFORMITY
TREATMENT

- Conservative: Silver Rings
- Operative: Superficialis Tenodesis, Oblique Retinacular Retinacular Ligament Reconstruction or Central Slip Tenotomy

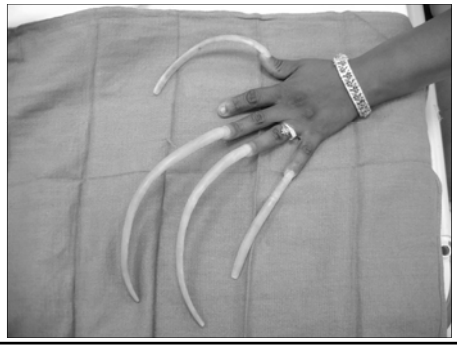


PARONYCHIA

- Staph Infection CTQ
- Soaks vs.. Incision and Drainage
- Excise nail for chronic conditions

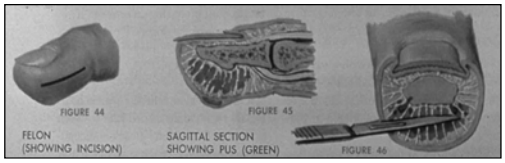


Paronychia



FELON

- Pulp Infection
- Staph Aureus CTQ
- Incision and Drainage



WEB SPACE INFECTION

- "Collar Button" abscess
- S/P Injection Injury
- Staph Aureus
- Drainage through Two Incisions

SUPPARATIVE FLEXOR TENOSYNOVITIS
KANAVEL'S SIGNS CTQ

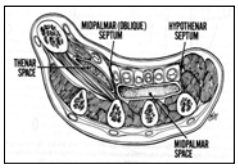
- PAIN ON PASSIVE EXTENSION
- FLEXED DIGIT
- SYMMETRICAL SWELLING
- TENDER ALONG SHEATH

SUPPARATIVE FLEXOR TENOSYNOVITIS

- True Emergency
- Incision and Drainage
- Aspirate Sheath?
- Avoid Brunner Incision

THENAR AND PALMAR SPACE INFECTIONS

- Septa to III Metacarpal CTQ
- Stab Wound
- Incision and Drainage



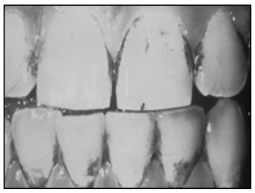
BROWN RECLUSE SPIDER BITE

- Necrotizing
- Debridement
- Dapsone if diagnosed early
- Other spider bites not toxic but may create a local infection

HERPETIC WHITLOW

- Vesicles
- Medical Personnel
- Avoid Drainage
- Acyclovir

BITE WOUNDS



- Staph and Strept Infection most common CTQ
- Human: Eikenella
- Animal: Pasturella

BITE WOUNDS TREATMENT

- Incision and Drainage
- Inpatient Treatment for Human Bites
- Synovectomy
- IV Unasyn or PCN & Cephalosporin, PO Augmentin CTQ

ATYPICAL MYCOBACTERIUM

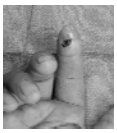
- Chronic Synovitis
- Fish or Fresh Water Exposure
- Temperate Climates only
- Distal Extremity Involvement only
- Culture at 30 deg Celsius for 6 weeks(Lowenstein - Jensen Medium) CTQ

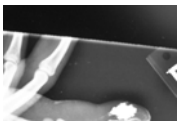
ATYPICAL MYCOBACTERIUM TREATMENT

- Temporizing improvement with steroids
- Synovectomy
- TB meds for 6 - 12 months
- Up to 20 % failure rate

PAINT INJECTION INJURY

- Innocuous Appearance
- Early Debridement
- > 70% Amputation Injury
- Prognosis based on solvent





OITE Questions

A 28-year-old woman who is recently postpartum has radial-sided wrist pain. The treatment that will most likely resolve her symptoms is injection of corticosteroids in which of the following locations?

1- Intersection of the extensor pollicis brevis and the radial wrist extensors
2- First extensor compartment
3- First carpometacarpal joint
4- Scaphotrapezial joint
5- Superficial radial nerve as is exits from beneath the brachioradialis

OITE Questions

A 45-year-old roofer reports gradually worsening pain on the lateral aspect of his right elbow for the past 6 weeks. Examination reveals pain with resisted wrist extension and pinch activities with the wrist flexed. What muscle is the most commonly involved in causing this type of pain?

1- Brachioradialis
2- Extensor indicis proprius
3- Extensor carpi radialis longus
4- Extensor carpi radialis brevis
5- Anconeus