Common Presentations

- OA
- RA
- ".internet"
  - Fingers
  - Met heads/shaft
  - Ulna
  - Radius
  - Carpels
- Tenosynovitis
- Trigger finger / thumb

- Dupuytren’s
- Peripheral nerve palsy
  - Carpeltunnel syndrome
  - Ulna claw hand
  - Focal Dystonia
- Referred pain
  - TOS / foraminal / discogenic
  - Visceral

OA Fingers / Wrist

- Classically a disease of old age or in younger people as a result of trauma
- Carpometacarpal
  - Painful fingers / wrist.
  - Localised snuff box pain
  - Swelling or deformity at the base of thumb
  - Swelling / deformity fingers
- Affects the middle & terminal IPJ’s with classics Bouchard’s and Heberden’s nodes
- X-ray findings
  - Narrowing of the joint space
  - Subchondral sclerosis
  - Subchondral cyst
  - Osteophyte formation.

- DD Points
  - Patient age / occupation
  - History of local trauma/ # digits/ wrist
  - Observable
    - Deformity / nodes
    - Joint swelling
  - Pain Pattern
    - Inflammatory type low grade
    - AM pain & EMS+/… Better for mvt/variable on over use

RA

- Characterised as a disease of the joints and soft tissues… but can be multi system

- DD Points
  - RA can occur at any age.
    - Peak between 25 and 55
    - ♀♂
    - Commonly affects wrists, fingers, knees, feet, and ankles
    - Multiple joints bilaterally
    - Course and the severity variable punctuated by acute episodes
  - Insidious onset, AM stiffness >1hr, widespread myalgia and eventually joint pain
**Fractures**

- Rare that we see fractures in the first instance
  - (in this area but it does happen)
- Normally there present secondary to the musculoskeletal complaint
- Classically sports/occupational related injury particularly cricket, rugby & hockey, but any contact sport increase risk
- Builders tend to crush, pinch or hammer their fingers and will generally ask for advice
- Skateboarder’s & snowboarder’s tend to # wrists rather than fingers

**Boxer’s Fracture**

- Definition: Fracture of the neck of the fifth metacarpal
- Mechanism: Often injured in fist fights or punching walls (yellow flag?)
- Signs: Swelling and deformity
- Depression of the involved knuckle
- Examination: Observation and palpation over suspected fracture site
- Management: Refer, rehab with power web, eggexerciser, soft tissue and trigger point

**Boutonniere’s Deformity**

- Definition: Partial tear or complete rupture of the ulna collateral ligament
- Mechanism: Traumatic ski injury or gamekeepers wring animals necks
- Signs: Pain, Swelling, instability, loss of grip
- Examination: Stress joint in valgus, loss of end feel and pain
- Management: Refer as will need plastering if partial and operative repair if full then rehab (no always apparent at 1st visit)

**Skier’s Thumb**

- Definition: Avulsion at metacarpophalangeal joint (skiier’s thumb)
Distal/middle/proximal Phalanx

- **Definition**
  - # finger various parts
- **Mechanism**
  - Direct trauma, crush
- **Signs**
  - Swollen, painful, patient wont want to move it
- **Examination**
  - With care, unsure? Refer to casualty
- **Management**
  - Refer for aluminium splint/buddy taping, may need to be reduced (traction/manipulation)
  - Rehab with power web, Thera putty

**Buddy Taping**

- **Definition:**
  - Distal radius fracture
- **Mechanism:**
  - Most common wrist fracture usually as a result of fall outstretched arm
- **Signs:**
  - Obvious signs of displacement
  - Radial deviation
  - Floppy wrist, swollen and painful
  - Ulna styloid process may be involved (60%)
- **Management:**
  - Rehab can occur when casted/externally fixated
  - Increase ROM initially
  - Perfusion & drainage work
  - Power building all muscle groups with

**Definition**

- Fracture distal of radius, reverse of Colles
- **Signs:**
  - As Colles
- **Management:**
  - As Colles

**Definition**

- Fracture-dislocation carpo-metacarpal joint involves Thumb or Pinky finger
- **Signs**
  - Loss of FX, swelling, pain obvious sign of dislocation
- **Management**
  - Open Reduction and Internal Fixation (ORIF)
  - Rehab directed at
  - Restoring FX & grip strength

**Definition**

- Scaphoid most common carpal bone fracture
- **Signs**
  - Usually sports/truma related
  - Swelling/pain in anatomical snuff box
  - Loss of function
- **Examination:**
  - AROM reduced due to pain/swelling
  - No obvious deformity
  - Palpation of anatomical snuff box painful
  - Squeezing objects painful
- **Complication... malunion!!!**
- **DD?**
  - Colles
  - Smiths
  - Bennett's
Tenosynovitis/ tendonitis & Bursitis

- De Quervian’s Tenosynovitis
  - BlackBerry thumb / gameboy thumb/ play station thumb
  - Inflammation of thumb extensor tendons
    - Extensor pollicis brevis
    - Abductor pollicis longus
  - Occurs where tendons cross radial styloid
- DD Point
  - Test using Finkelstein’s test
  - Consider other tendons in the area (Ext carpi rad)
- Complications trigger thumb
  - Swelling of tendon and sheath

- Treatment
  - As with all overuse injuries stop / limit the offending cause
  - Treat distally initially further up the muscle belly
  - Then drainage techniques locally with follow up hot/cold treatment or self ice massage / effleurage
  - Consider NSAID’s if appropriate
    - (self medicating OTC Brufen)
  - Consider immobilisation only as a last resort
  - If all else fails refer for injectable cortisone

Bursitis

- Hand not a common site for bursitis
- Treat as for tenosynovitis

DD Point

- Diagnosis normally made on history, clinical observations/examination and exclusion of other possibilities
  - Tenosynovitis
  - Cyst / ganglion
  - Other swellings, Trauma/bite
  - OA/RA

Ganglion

- Most common soft tissue mass in hand
  - Moveable mass over a tendon or joint
  - Commonly found on back of wrist
  - Fluid filled sac
  - normally attached to the tendon by a stalk
  - Causes local pain/swelling/weakness
  - Can be hidden under tendon

DD Point

- Needs to be differentiated between other swellings in the area... (lyphoma’s, tendonitis, #)
- Classically seen in adults
- Swelling on back of wrist or becomes evident with wrist is flexed
• Treatment
  – Bash it with a bible!!! 😁
  – Aspirate and compress
  – Injectable steroid
• Spontaneous resolution without treatment: 53%
• Recurrence within 2 to 5 years after treatment
  – Recurrence after surgical excision: 42%
  – Recurrence after aspiration: 47%
• Based on the above probably best to let it run a natural course

Dupuytren’s contracture
http://www.dupuytrens-contracture.com/

• Cause unknown, that doesn’t mean there is no cause
  – Genetic (may be inherited)
  – Autoimmune (HLA-B7 identified in some people)
  – Acquired (occupational/RSI)
  – Traumatic (fat pad dispersal with age- tendons more venerable to injury)
  – Associated with liver disease
• Thought to be a repair/remodelling issue with excessive collagen lay down

• Treatment
  – Treat the entire chain (fluid dynamics)
  – NMT palm fascia
  – Encourage stretching of hand/fingers
  – Encourage self massage
  – Consider referral to other disciplines

Peripheral Nerve Palsy
• Carpal Tunnel
• Pathophysiology
  – Compression of the median nerve as it passes thru the carpal tunnel
  – Occurs between transverse carpal ligament
  – Inflamed and enlarged synovial lining of flexor tendons
  – Number of different causes
  – Common in
    • Pregnancy, CHF, hypothyroidism, DM and RA
    • Any condition that causes fluid retention
  – Bilateral in 50% of presentations
  – Occurs in 30% of computer users
• **DD Points**
  - Fairly clear daily pattern
    - WF: lying down at PM
      - Most suffers will describe been woken by pain/altered sensation which clears with shaking outside the covers
    - BF: moving/shaking hands, preventing pooling of fluid in the hands
  - Consider double crush syndrome
  - Confirm thru
    - Tinel sign
    - Phalen’s test
    - Compression in cubital fossa
    - Cervical spine & TOS testing

• **Treatment**
  - Rule of artery is supreme
  - Articulate thru wrist, elbow shoulder
  - Advise on exe rehabilitation
  - Cold/hot treatment
  - Ice massage over the flexor retinaculum
  - Injectable steroid
  - Decompression surgery
    - (Last resort or if nerve damage apparent)

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**Focal Dystonia / AKA Writers Cramp**

• **Pathophysiology**
  - Cause unclear
    - Regarded as an RSI/Overuse Syndrome
    - Classically seen in...
      - Musicians
      - Tennis Players
      - Rower
      - Golfers
      - Podiatrists
  - Cramping of the intrinsic muscles of hand and forearm

• **DD points**
  - Difficult to diagnosis so case history & examination important
  - Consider neuro/vascular causes (TOS)
  - Diagnosis by exclusion of other overuse syndrome causes
  - Occupation / exercise history may be a key indicators

• **Treatment**
  - Lots of Rehab
  - Deep soft tissue to hand and forearm musculature
  - NMT/Trigger point thenar/hypotenar eminences and lumbricals
  - Fluid drainage thru chain with GAT
  - Look at aggravating factor reduction / support

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**Ulna Nerve Compression (Handelbar’s Palsy)**

• Much less common than median nerve

• **Pathophysiology**
  - Compression of the nerve similar to median – tunnel of Guyon
  - But can also be subject to double crush, thru musculature in forearm, cubital tunnel, TOS, Cervical spine
  - Ganglions, soft tissue tumours, scar tissue

• **DD Points**
  - Median nerve comp
    - Different distribution
  - Cubital tunnel comp
    - Symptoms within the forearm

• **Treatment??**
TOS

- For true definition you both vascular & neural involvement into the upper extremity
  - Sensory disturbance
  - Vascular deficiency

Pathophysiology
- Anything the compresses to neurovascular bundle
- Commonly...
  - Raised 1st rib/ cervical rib
    - Commonest cause of neurovascular compression
    - Compression thru anterior and middle scalenes
    - Extra rib at C7 compromising the passage of nerves and vessels
  - Reduced costoclavicular space
    - costoclavicular syndrome/(Ruck Sack Syndrome)
    - Malunion / non union clavicle #
  - Reduced coracoid process / pec minor space

DD Points
- History will be important in determining cervicogenic/foraminal

Testing
- Roos/East’s Test
- Allen’s
- Adson’s
- Halstead’s
- Wrights

Testing to rule out foraminal encroachment/disc bulge

Treatment
- Scapula thoracic articulation (GAT Style)
- MET cervical spine
- HVT local segmental dysfunction (C4)
- Treat chain
- Soft tissue/NMT rotator cuff, rhomboids, scalenes
- Surgical intervention as a last resort in the presence of increasing neurological / vascular symptoms unresponsive to treatment

Visceral Referral

CV System

Angina Referral Pattern

MI Referral Pattern