

# The Sporting Hand & Wrist

(Conservative and Post-operative management of the CMC joints in Boxing)

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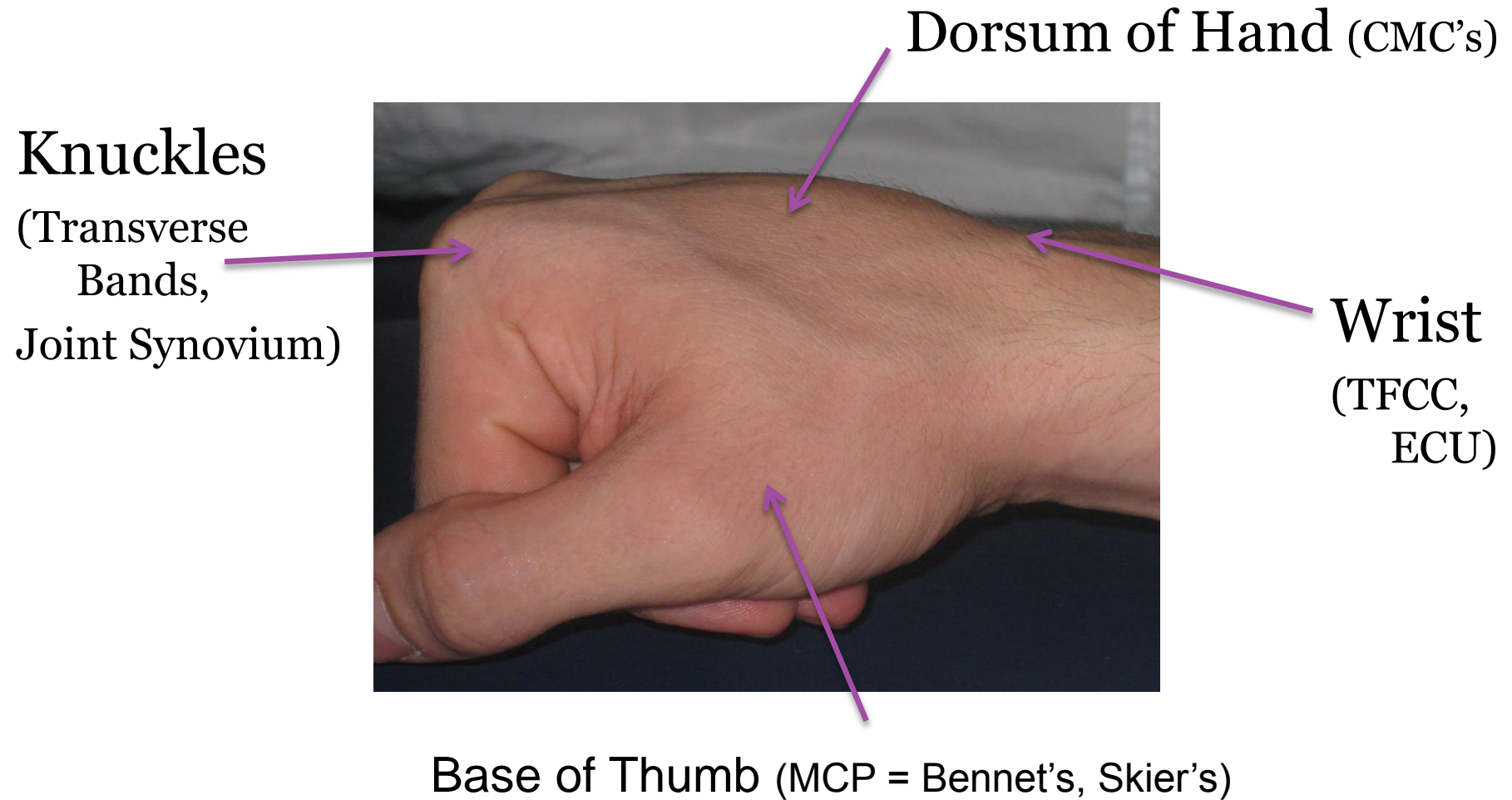
**9<sup>th</sup> Southampton Hand Course**

**27<sup>th</sup> June 2014, Chilworth Manor Hotel**

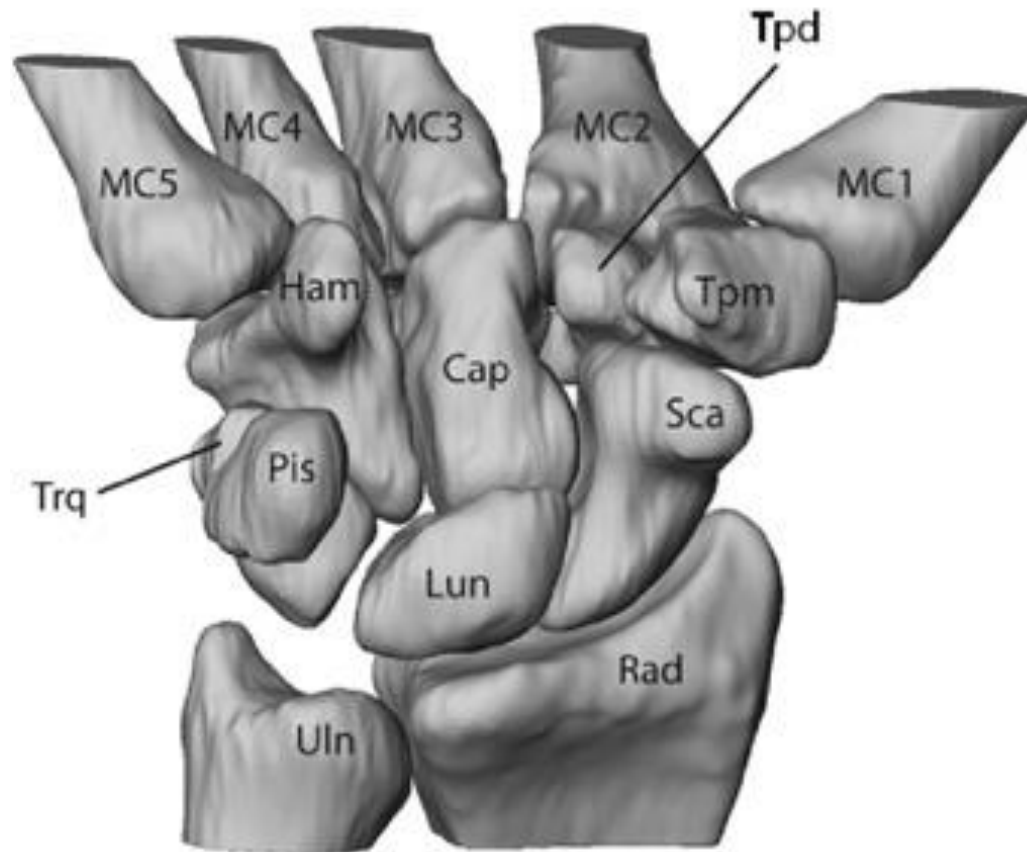
# Injury distribution in GB Boxing



# Injury distribution in Boxing (Hand/Wrist)



# Anatomy of the Hand/Wrist



# Injury prevention (Basics)

- Warm up/ cool down
  - Theraband - warm up
  - Stretching - cool down
  - Ice buckets - cool down
- Prehab Strategies
  - 'Grip and squeeze' circuits
  - Add-ons for high risk
- High Associated Factors
  - Bandaging techniques
  - Early detection/management



# Bandaging techniques & Glove Quality

- We have seen a **20%** **reduction** in hand injuries over 3 years



# With all good intentions = injuries happen!

- CMC conservative management can take up to **6 weeks** in Boxing based on our strategies (can be reduced to 4 weeks if required)
- CMC operations recovery usually take about **4-5mo.** Although some cases can take up to 9mo to recover

# CMC Conservative Approach

- **Week 0-2\_Adhesive stage:** Prolotherapy or Sclerotherapy: Hand in splint with aim to work on strength during this period – no impact
- **Week 2-4\_Initial impact stage:** Increase impact with use of splint
- **Week 4-6\_Weaning off stage:** Progress impact with objective to remove splint by end of 6 week period

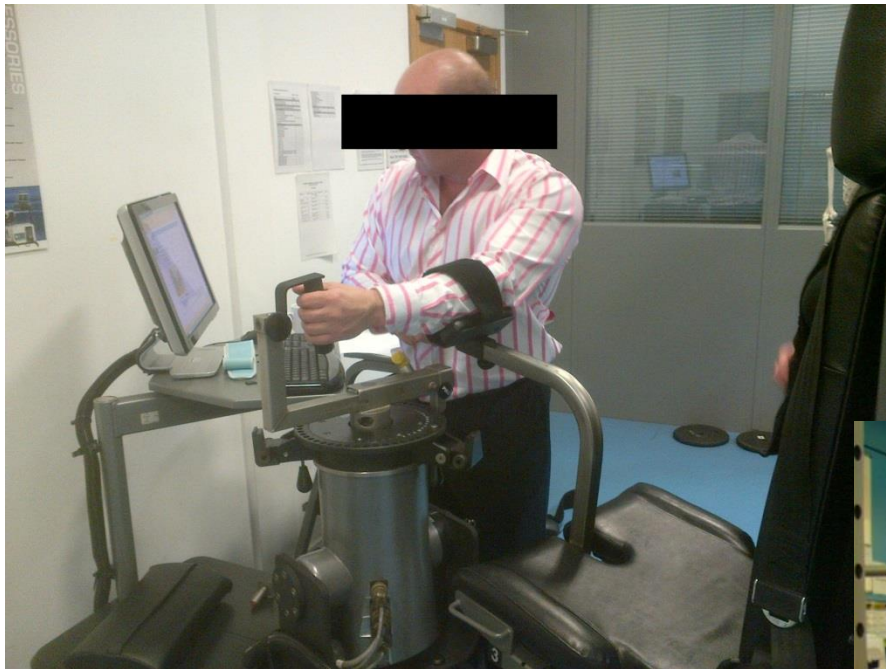


# Treatment Techniques

- Electrotherapy – cell regeneration/healing/pain = Laser/LFU
- Acupuncture – pain/muscle tone
- Mobilisations – restore mechanics/pain
- STM – Improve muscle function
- Muscle resistance – muscle activation/loading through joint
- Graston approach – Pain Management
- Splinting = Protection
- Prolotherapy
- Consideration for Steroid Therapy?



# Strength Testing/Monitoring: Dynamometers



# Rehabilitation: Strength (Intrinsic)



# Rehabilitation: Strength (Extrinsic)



# Rehabilitation: Strength/Stability



# Splint; Bespoke vs Off the shelf



# Rehab: Perturbations/Loading Strategies



# What sort of force are we looking at!





# Operative Approach

- Operation:** Right index and middle finger CMCJ fusion under GA + bone graft from distal radius impacted!
- Post-Op:** Immobilise in volar slab for one week. Then static immobilisation - removable to allow pin site care - for six weeks. Refer to OT. Discharge home today if safe. Review in three weeks.

# Post-Operative Rehab Plan

- Phase I – Splint/Rest Phase (0-2 weeks): K-Wires present: No CV or other exs possible at this stage. No physio warranted at this stage.
- Phase II – Splint Phase (2-5 weeks): K-Wires present: No CV, low grade strengthening exs in lower legs and opposite side possible as long as no general effort required to prevent sweating in effected side. Physio to review area and assess if mobility treatment in surrounding joints required.
- Phase III - ROM & Initial loading (6-10 weeks): K-wires removed: CV possible, increased grade of strengthening in lower legs and opposite side. Involvement of operated side - modified. Aim at this stage is to gain Full mobility around hand/wrist complex.
- Phase IV – Strength Phase/ Initial Loading (10-16week): Aim to increase strength specific in hand/wrist complex with further gains in rest of body
- Phase V – Return to Training (16-20 weeks): 20+weeks:Gradual progression back in to boxing specific training based on symptoms/objective markers
- Phase VI – Return to Competition (20+weeks):Return to competition is dependant on athlete/coaching feedback. If boxer in full training at 20 weeks to expect return to competition at 24-26wks post-op.