ECHO Sports Medicine

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Hand Injury Cases-Dr. Carol Scott

UNR Student Health Sports Medicine
I am a 16 year old female basketball player presenting to your office with a right second (pointer) finger injury sustained while trying to catch a basketball during practice.

- My injury occurred yesterday.

- My main complaint is that I can’t straighten my fingertip.
The general examination is normal.

My right and left hands are normal with the exception of the injured finger.

The distal phalanx of my injured finger is held in flexion and I can’t extend the DIP.
Case 1-Exam
These injuries require radiologic evaluation. Radiographs will demonstrate whether the injury involves a concomitant fracture of the dorsal base of the distal phalanx.
Case 1 - Mallet Finger

- Mallet finger is one of the most common closed tendon injuries of the hand.

- It occurs when the distal phalanx is held in extension while a flexion force is applied across the joint.

- The trauma results in the avulsion of the extensor tendon from the point of attachment to the distal phalanx.
A segment of the distal phalanx, which comprises the distal portion of distal interphalangeal (DIP) joint, may break off along with the tendon.

Case 1 - Anatomy

Extensor Tendon Disruption
Case 1 - Treatment

- The extent of injury dictates the most appropriate treatment.

- Simple tendon avulsions are treated with prolonged continuous extension splinting of the DIP for 6-8 weeks.

- Small associated bony avulsions are similarly treated.

- If the joint involvement is greater than 40% of the joint surface, or if there is a DIP fracture dislocation, then surgery is warranted.
If not treated, mallet finger leaves a deformity with the DIP in permanent flexion.
Case 1-
Changing or Cleaning the Splint
Case 2-History

• I am an 18 year old male accounting student complaining of pain in my right hand after “punching a wall”.
Case 2 - Physical Exam

- My hand is swollen over the distal 5th metacarpal and the little finger knuckle has disappeared.

- It hurts to write, shake hands, or use my hand for any activity requiring strong grip.
Case 2 - X-ray

- A boxer’s fracture of the neck of the 5th metacarpal
- Note 15 degree forward angulation of the head of the metacarpal.
Most patients with a boxer’s fracture will be managed conservatively with an ulnar gutter splint which supports the ring and little fingers for 2-3 weeks.
• Evaluate at 2-3 weeks with repeat x-ray.
• If healing, may come out of splint and start range of motion.
• Protect during healing time of 4-6 weeks.
• Surgical treatment may be required if:
  • There is angulation >35-40 degrees
  • Any rotational deformity
  • Multiple fragments
  • When a tooth has punctured the skin.
Case 3-History

- I am a 16 year old right handed baseball player complaining of pain on the palm of my left hand below my pinky finger.

- It started after a long session at the batting cages and has lasted for two weeks.

- It hurts to hold a bat.
• My hand is swollen and tender over the hypothenar eminence and I have pain there with palpation.

• It hurts to use my hand for any activity requiring strong grip.
No fracture including a carpal tunnel view.
Case 3-Xray

Case 3 - Additional Imaging

- Due to your suspicion for a hook of the hamate fracture, you order an MRI.
- This study confirms your suspicion.
Case 3 - Treatment

- You send the patient to the hand surgeon who recommends excision.

- Three weeks later your patient is able to start holding a bat without pain.

- This injury is often misdiagnosed as tendinitis or a sprain.