GENERAL CONSIDERATIONS

Injury Causation

- Determination is based primarily on history and exam, rather than diagnostic tests.
- Occupational medicine specialists will often determine causation before referral to orthopaedist.
- Acute musculoskeletal injuries may be superimposed on pre-existing pathology thereby complicating causation determination. In these cases, orthopaedists may be able to clarify the causation issue.
- Legal challenges to injury causation are often adjudicated in favor of the patient resulting in unnecessary legal fees for the employer and delay in medical treatment for the patient.

Timing of Referral: Fractures and Dislocations

- Open fractures and open dislocations should receive emergency care in hospital well staffed with orthopaedists. Emergency operative treatment is indicated.
- Closed dislocations should receive urgent care in emergency room as IV sedation is often required to achieve closed reduction.
- Closed fractures may often be splinted in minor emergency room or occupational medicine clinic and later referred for orthopaedic care.
- Fractures should receive definitive treatment as soon as possible but not later than 3 weeks after injury.
- In most cases, definitive fracture care should be provided by orthopaedists who are best qualified to determine which fractures require operative treatment. For example, some displaced fractures do not require operative treatment, whereas some non-displaced fractures are unstable and should be treated with operative fixation.

Timing of Referral: Ligament and Tendon Ruptures

- Acute tendon ruptures (distal biceps tears, FDP avulsions) should be repaired within 3 weeks.
- Acute ligament tears (thumb MCPJ ulnar collateral ligament, scapholunate ligament) should be repaired within 3 weeks.
- Rotator cuff tendon tears and proximal biceps ruptures do not require such urgent care. These lesions are often acute on chronic tears and treatment may be individualized on a case-by-case basis.
Diagnostic Imaging
• High quality radiographs and advanced imaging are necessary for the optimal management of upper extremity orthopaedic problems.
• Specific recommendations for radiographs and advanced imaging studies are provided on my website www.drhearon.com. Instructions for radiology technicians are also included.
• Image quality of computed digital radiographs is superior to standard radiographs.
• Advanced imaging, including MRI evaluation, is not required in all cases.
• Recommendations for advanced imaging should be made by orthopaedists.

Orthopaedic Consultants
• Orthopaedic consultants should be Board certified.
• Orthopaedic subspecialists may be better suited to manage difficult problems.
• Only subspecialists in hand surgery or orthopaedic sports medicine may have additional certification by the American Board of Orthopaedic Surgery.
• The role of university-based orthopaedic care versus community-based practice.
• The role of physician assistants as physician extenders in orthopaedics is to provide preoperative and postoperative care and assist during surgery.

Treatment and Outcome Expectations
• Treatment and outcome expectations should be established among physician, patient and case manager at the initial office encounter.
• Non-operative and surgical treatment options should be described to foster informed decision-making by the patient.
• Not all work comp patients require operative treatment. Non-operative treatment methods are successful in many cases.
• The role of physical therapy and possibility of work conditioning should be discussed with the patient.
• Return to pre-injury work is not guaranteed. Options for modified work activity or alternatives jobs should be discussed.
• Patient motivation to return to work is key to a successful outcome. Secondary gain issues may delay return to work, but are not necessarily a factor in all cases.

Impairment and Work Restrictions
• Permanent partial impairment determination should be requested at the conclusion of care.
• AMA’s Guides to the Evaluation of Permanent Impairment is used as a guide in making the impairment determination.
• Some patients may return to regular work with no restriction, but are determined to have a permanent partial impairment.
• Other patients may require a permanent work restriction to avoid reinjury, but have no permanent partial impairment.
SPECIFIC UPPER EXTREMITY PROBLEMS

Hand/Wrist: Carpal Tunnel Syndrome (CTS)
- Occupational factors such as repetitive hand use play a minor role in CTS.
- CTS is a clinical diagnosis based primarily on history and physical exam.
- Electrodagnostic tests are confirmatory but do not change the probability of diagnosing CTS.
- AAOS recommends that surgeons obtain electrodagnostic test when surgical treatment is being considered.
- Nonsurgical treatment may include intermittent splinting, oral steroids, steroid injection or ultrasound. Low-level laser treatment is not recommended.
- Open carpal tunnel release and endoscopic carpal tunnel release provide equivalent clinical results at 5-year follow-up.
- Endoscopic carpal tunnel release allows earlier return to work, but is associated with higher risk of neurapraxia.
- Supervised hand therapy is unnecessary after uncomplicated carpal tunnel release.

Elbow: Cubital Tunnel Syndrome (CuTS)
- Causative factors include direct nerve compression, repetitive elbow flexion.
- CuTS is a clinical diagnosis based on history and physical exam findings.
- Ulnar nerve may be entrapped in cubital tunnel or may be subluxing anteriorly with elbow flexion.
- Electrodagnostic tests are confirmatory and permit assessment of severity.
- Operative indications include ulnar sensory loss or motor weakness on physical exam or positive electrodagnostic test.
- Simple ulnar nerve decompression is operation of choice for some surgeons. Potential complication of simple decompression is ulnar nerve anterior subluxation with elbow flexion.
- My preferred treatment is ulnar nerve anterior transmuscular transposition with step-cut lengthening of elbow flexor-pronator fascia.
- Formal physical therapy is usually not required postoperatively.

Shoulder: Impingement / Rotator Cuff Tear (RCT)
- Shoulder injuries, particularly in middle-aged men, may result in post-traumatic impingement, possible RCT.
- Work comp shoulder patients report significantly lower functional level and health status regardless of diagnosis compared to non-work comp patients.
- Shoulder MRI is over-utilized as a diagnostic screening tool in patients with shoulder pain. Poor quality MRI studies may compromise patient care and outcome. High quality studies may be obtained with in-office MRI units.
- Arthroscopic subacromial decompression is recommended for post-traumatic impingement syndrome.
- Arthroscopic rotator cuff repair is the new standard of care for rotator cuff tears.
• Supervised physical therapy is often appropriate following arthroscopic subacromial decompression and arthroscopic rotator cuff repair.

• Work comp patients and non-work comp patients can expect similar outcomes following arthroscopic subacromial decompression. However, work comp patients take significantly longer to return to work.

• Work comp patients have significantly worse outcomes one year after rotator cuff repair than non-work comp patients.

REFERENCES

Hand/Wrist


**Elbow**


Shoulder


