Designated Doctor Certification Course - Upper Extremity MMI and IR

Pre-Course Cases

Case 1

History of Injury
- 25-year-old male working as a painter lifted a five gallon bucket partially full of paint
- He heard a pop and experienced immediate right shoulder pain

Treatment History
- Saw PCP on date of injury and was diagnosed with shoulder strain
- Treated with ibuprofen and PT
- Initial 6 visits of PT over 3 weeks
    - Codman's and other passive ROM
    - Scapular stabilization/control exercises
    - Rotator cuff resistance exercises with minimal shoulder abduction

PCP follow-up 3 weeks post injury
- "Not better"
- Restricted painful shoulder ROM
- Shoulder flexion and abduction approximately 80º, IR/extension thumb to L5
- RTW with restrictions – restricted duty work unavailable
- Orthopedic surgeon referral

Orthopedic Surgeon 5 weeks post injury
- Active shoulder abduction and flexion approximately 90º
- Inability to actively resist abduction (4/5)
- Positive impingement signs
- X-rays negative for fracture, dislocation, but Type III acromion
- Ordered shoulder MR arthrogram of right shoulder

MR arthrogram 6 weeks post injury
- Partial thickness rotator cuff (supraspinatus) tear
- Type III acromion
- Subacromial effusion

Orthopedic surgeon 7 weeks post injury
- Symptoms, activity tolerance and PE unchanged
- Restricted duty work unavailable
- Inability to actively resist abduction (4/5)
- Subacromial corticosteroid and concurrent PT

PT 8-11 weeks post injury
- 6 additional visits
- Concurrent with 2 subacromial corticosteroid injections
- Progression of scapular and rotator cuff strengthening
- Shoulder flexion 120º, extension 30º, adduction 30º, abduction 100º, internal rotation 20º, external rotation 30º at discharge (12^{th} visit of PT)
- Restricted duty work still unavailable

Orthopedic surgeon 12 weeks post injury

- Symptoms, activity tolerance are improved
- Shoulder abduction and flexion approximately 120°
- Mildly positive impingement signs
- Restricted duty work unavailable
- Recommended continued 6 visits of PT
- PT preauthorization denied, appealed
- Insurance carrier "accepts shoulder sprain, denies partial thickness rotator cuff tear"

DD Exam – 20 weeks post injury
Medical History

- States cannot use right arm well at all, especially above shoulder level
- Right arm "really weak"
- Right shoulder "stiff"
- PT and injections helped, but no PT in about 8 weeks
- Doing some exercises at home
- Wants to work "but my boss won't let me"

DD Physical Exam

- Shoulder flexion 110º, extension 30º, abduction 90º, adduction 20º, internal rotation 10º, external rotation 20º
- 4/5 strength right shoulder abduction, flexion and external rotation when performed at >45º-60º of abduction or flexion
- Upper Extremity DTRS and sensation normal

Case 1 Questions:

Based on medical records and physical exam, what is the compensable injury for certifying MI and IR?

A. Right shoulder strain
B. Partial thickness right rotator cuff (supraspinatus) tear complicated by pre-existing Type III acromion
C. A and B
D. None of the above

Has MMI been reached? If so, on what date?

A. Yes, 11 weeks post injury, date of 12th PT visit
B. Yes, 12 weeks post injury, date of ortho follow-up
C. Yes, 20 weeks post injury, date of DD exam
D. No, not at MMI

Case 1 – the Sequel
Medical History

- Arthroscopic rotator cuff repair with acromioplasty at 22 weeks post injury
- Completed 24 visits weeks 34-48 post injury following post-op immobilization
- RTW full time at new job 50 weeks post op with 50# lifting restriction, no lifting >25# above shoulder height
- PT discharge 48 weeks post injury

- 5/5 UE strength
- Progression of resisted rotator cuff/scapular strengthening exercises
- Shoulder ROM
    - Flexion 160º
    - Abduction 150º
    - Adduction/internal rotation thumb to T10

Ortho follow up 49 weeks post injury

- "Much better, finished with PT, doing home exercises"
- "Full ROM and strength"
- Follow up PRN

DD Physical Exam – 52 weeks post injury

Shoulder ROM

- Flexion 155º
- Extension 28º
- Abduction 150º
- Adduction 25º
- Internal rotation 40º
- External rotation 50º

- Intermittent AC joint crepitation with active right shoulder range of motion
- No significant scapulothoracic dyskinesis or crepitation
- 5/5 strength right shoulder with manual muscle testing
- Normal UE DTRs and sensation

<u>Case 1 the Sequel Questions:</u>

Based on medical records and physical exam, what is the compensable injury for certifying MI and IR?

A. Right shoulder strain
B. Partial rotator cuff tear, status post rotator cuff repair
C. A and B

Has MMI been reached? If so, on what date?

A. Yes, 48 weeks post injury, date of PT discharge
B. Yes, 49 weeks post injury, date of ortho follow-up
C. Yes, 50 weeks post injury, date began working with restrictions at new job
D. Yes, 52 weeks post injury, date of DD exam
E. No, not at MMI

On the MMI date, what is the whole person IR?

A. 5%
B. 8%
C. 11%
D. 18%

Case 2

History of injury

- 25-year-old male oil field worker sustained a crush injury to his left hand

Treatment history

- Seen in ER date of injury and underwent surgery date of injury
- Traumatic amputation of left index finger at metacarpal phalangeal joint
- Fractures of proximal phalanx of left thumb and proximal phalanx of middle finger treated with pin fixation
- 24 post op OT visits
- OT discharge 40 weeks post injury

Well healed index finger amputation

- Thumb ROM
  - IP flexion 40º and extension 0º
  - MP flexion 40º and extension 0º
  - Abduction 70º
  - Adduction and opposition "essentially full"
- Middle finger ROM
  - DIP flexion 40º and extension -20º
  - PIP flexion 50º and extension -10º
  - MP flexion 60º and extension 0º

- Sensation decreased over the palmar surface of the middle finger from the PIP joint distally.

- Treating doctor follow-up 40 weeks post injury
  - Healed thumb and finger fractures and index finger wound site
  - More time needed for spontaneous healing of digital nerve injury to middle finger

- Treating doctor follow-up 52 weeks post injury
  - Healed middle finger and thumb fractures and index finger wound site
  - Numbness of the middle finger unchanged over the last 3 months
  - Thumb and middle finger ROM "same as prior visit after completing OT"
  - Returned to work at new job
  - Continue gabapentin, follow-up 3 months

- DD Physical exam 60 weeks Post injury
  - Taking gabapentin
  - Working full time at new job
  - Continued numbness middle finger
  - Well healed scars, no redness/swelling

Left Thumb

- IP flexion 50º, extension 0º
- MP flexion 40º, MP extension 0º
- Abduction 50º
- Lack of adduction = 2 cm
- Able to oppose to 7 cm from the palm

- 6 mm of 2-point discrimination entire palmar aspect of the radial and ulnar side of the digit
- Left index finger amputation at MP joint
- Left middle finger
    - ROM
        - DIP flexion 40º and extension -20º
        - PIP flexion 50º and extension -10º
        - MP flexion 60º and extension 0º
- Sensation >15 mm 2 point discrimination entire palmar aspect of finger from PIP joint distally

Case 2 Questions:

Based on medical records and physical exam, what is the compensable injury for certifying MI and IR?

A. Left hand crush injury
B. Fracture of proximal phalanx of thumb
C. Traumatic amputation of left index finger
D. Fracture proximal phalanx of middle finger with digital nerve injury
E. A
F. A, B, C, D

Has MMI been reached? If so, on what date?

A. Yes, 40 weeks post injury, date of OT discharge and treating doctor follow-up
B. Yes, 52 weeks post injury, date of treating doctor follow-up
C. Yes, 60 weeks post injury, date of DD exam
D. No, not at MMI

On the MMI date, what is the whole person IR?

A. 36%
B. 34%
C. 20%
D. 17%

Case 3
History of Injury

- 25-year-ld male waiter tripped and fell at work landing on outstretched left arm
- Sustained fracture of left distal radius
- Underwent open reduction and internal fixation (ORIF) with plating by orthopedist
- Fracture is healed
- 12 visits of post-op PT with increased ROM and strength
- Subsequently complained of pain and loss of sensation in left hand
- Electrodiagnostic studies consistent with very severe median neuropathy
- Underwent nerve decompression 12 months post injury
- Reached clinical plateau with no reasonable anticipation of further material recovery or lasting improvement
- Say designated doctor for MMI and IR

DD Exam
DD Medical History

- Loss of sensation left thumb and index finger which interferes but does not prevent sleep, playing guitar and other ADLs
- RTW as waiter

DD Physical Exam

- Well healed surgical scar left wrist
- ROM left wrist
  - Flexion 24º
  - Extension 15º
  - Radial deviation 5º
  - Ulnar deviation 14º
- ROM left forearm
  - Pronation 25º
  - Supination 45º
- 5/5 strength of gingers, wrist and forearm muscles bilaterally
- 12 mm 2 point discrimination of palmar surface of radial and ulnar portions of left thumb and radial and ulnar side of index finger
- 6 mm 2 point discrimination over all other parts of left hand

<u>Case 3 Questions</u>:

Based on medical records and physical exam, what is the compensable injury for certifying MI and IR?

A. Left distal radius fracture
B. Traumatic median neuropathy
C. A and B
D. Any others?

For MMI - assume the date of the DD exam reflects the condition at MMI

On the MMI date, what is the whole person IR?

A. 35%
B. 22%
C. 21%
D. 15%