2011 Imaging Criteria

Magnetic Resonance Imaging (MRI), Elbow[1*RIN, 2]

ICD-9-CM: 88.94
CPT: 73221, 73222, 73223
I/O Setting: Outpatient

INDICATION(S)

100 Chronic monarticular joint pain
200 Suspected intra-articular loose body
300 Suspected avascular necrosis (osteonecrosis), radial head
400 Suspected osteomyelitis
500 Suspected ulnar collateral ligament (UCL) injury
600 Suspected biceps/triceps tendon tear

100 Chronic monarticular joint pain **[All]**[3]
- 110 Symptoms at elbow **[One]**
  - 111 Joint pain
  - 112 Locking
- 120 Findings at elbow **[Two]**
  - 121 Pain with passive ROM
  - 122 Limited ROM
  - 123 Tenderness
  - 124 Crepitus[4]
  - 125 Joint effusion/swelling
- 130 Elbow x-ray nondiagnostic for etiology of pain[5]
- 140 Continued symptoms **after** Rx **[Both]**[6, 7]
  - 141 NSAID **[One]**[8]
    - -1 Rx ≥ 4 wks
    - -2 Contraindicated/not tolerated[9]
  - 142 OT/PT ≥ 6 wks[10]

200 Suspected intra-articular loose body **[All]**[11]
- 210 Symptoms at elbow **[One]**
  - 211 Joint pain
  - 212 Locking
- 220 Findings at elbow **[Two]**
  - 221 Pain with passive ROM
  - 222 Limited ROM
  - 223 Clicking/crepitus[4]

230 Elbow x-ray nondiagnostic for loose body

300 Suspected avascular necrosis (osteonecrosis), radial head **[All]**[12, 13]
- 310 Elbow pain
- 320 Pain with passive ROM
- 330 Elbow x-ray nondiagnostic for avascular necrosis
- 340 Radial head fracture/nonunion of fracture by imaging

400 Suspected osteomyelitis **[Both]**[14]
- 410 Findings **[One]**[15]
  - 411 ESR > 30 mm/hr
  - 412 Temperature > 100.4 F(38.0 C)
  - 413 WBC > 10,000/cu.mm($10x10^9$/L)
  - 414 Blood culture positive
  - 415 C-reactive protein > 10 mg/L
- 420 Elbow x-ray nondiagnostic for osteomyelitis

500 Suspected ulnar collateral ligament (UCL) injury **[All]**[16]
- 510 Elbow injury by Hx
- 520 Tenderness of medial elbow
- 530 Instability with valgus stress testing

600 Suspected biceps/triceps tendon tear **[Both]**
- 610 Elbow injury by Hx
- 620 Weakness of flexion/extension

Notes

(1)-RIN:

For suspected bone tumor, see the "Magnetic Resonance Imaging (MRI), Extremity" criteria subset.

(2)

The following are examples of relative and absolute contraindications to the use of magnetic resonance imaging:

- Implanted devices that are electrically or magnetically activated (e.g., cardiac pacemakers, automatic cardioverter defibrillators, drug infusion pumps, cochlear implants)
- Ferromagnetic metal objects (e.g., cerebral aneurysm clips, intraocular metallic foreign body, prostheses, screws)
- Pregnancy, first trimester
- Renal insufficiency in cases when magnetic resonance imaging is performed with gadolinium-based contrast

(3)

Chronic monarticular pain, with or without prior trauma, may be caused by intra-articular loose bodies, chondromalacia, or chondral defects. Chronic pain in more than one joint may represent a systemic rheumatic disorder which may be diagnosed by clinical evaluation and blood tests.

(4)-DEF:

Crepitus is a sometimes audible, or sometimes palpable, grating sensation caused by two irregular cartilage surfaces moving relative to each other. It can be appreciated when the joint is extended or flexed.

(5)

X-ray should be performed to exclude fracture, dislocation, or tumor as possible causes of the patient's symptoms.

(6)

External joint support is important adjunctive therapy in most cases. A sling may be used intermittently to rest the joint.

(7)

The listed treatment(s) may have occurred at any time in the course of the illness.

(8)-POL:

It is a matter of local medical policy whether to accept acetaminophen or analgesics as substitutes for NSAIDs.

(9)

Contraindications to NSAIDs may be absolute (e.g., pregnancy, history of allergic reaction) or relative (e.g., anticoagulant use, history of PUD).

(10)

Therapy includes exercise training by provider instruction to the patient or supervised training through formal OT or PT.

(11)

Loose bodies in synovial joints are formed by several mechanisms, including trauma with fracture, joint disintegration from degeneration, and synovial proliferation. Examples of loose bodies include osteochondritis dissecans fragments, chondral fragments, and calcified loose bodies. Loose bodies that are stable or attached to a synovial membrane, recess, or bursa tend to be asymptomatic and can be treated conservatively. Loose bodies that move within the joint cavity can become trapped between the articular surfaces causing pain, limited motion, locking, and effusion (Dubberley et al., J Bone Joint Surg Br 2005; 87(5): 684-686).

(12)-DEF:

Avascular necrosis, (i.e., aseptic necrosis, osteonecrosis), is a degenerative condition of focal bone causing progressive pain and bony collapse. Numerous medical conditions predispose toward avascular necrosis, including alcoholism, chronic corticosteroid use, sickle cell disease, pancreatitis, trauma, SLE, and radiation therapy.

(13)

Avascular necrosis of the radial head after fracture is rare because the main vessel-bearing periosteal layer remains intact (Ring et al., J Bone Joint Surg Am 2002; 84-A(10): 1811-1815.). Avascular necrosis secondary to fracture nonunion may not be evident until at least 3 months after the fracture has occurred.

(14)

MRI of the elbow is useful in determining the extent of bone involvement with osteomyelitis. It can also identify abscess formation, areas of necrosis, and adjacent soft tissue involvement (Jbara et al., Radiol Clin North Am 2006; 44(4): 625-642, ix).

(15)

If the patient is immunocompromised, fever may not be present and the WBC may be unchanged or low.

(16)

Disruption may occur at the humeral or ulnar insertion, and may be complete or partial.