

2011 Imaging Criteria

Computed Tomography (CT), Extremity^(1*RIN)

ICD-9-CM: 88.38

CPT: 73200, 73201, 73202, 73700, 73701, 73702, 76375

I/O Setting: Outpatient

INDICATION(S)

- 100 Suspected fracture
- 200 Preoperative evaluation of osteomyelitis
- 300 Suspected fracture nonunion
- 400 Suspected tarsal coalition
- 500 Suspected bone tumor
- 600 Follow-up single bone metastasis after Rx
- 700 Follow-up primary bone tumor

- 100 Suspected fracture **[One]**⁽²⁾
 - 110 Intra-articular/long bone **[All]**⁽³⁾
 - 111 Pain at site
 - 112 Pain with passive ROM
 - 113 X-ray nondiagnostic for fracture at initial evaluation
 - 114 Pain unimproved **after** immobilization \geq 2 wks **[Both]**
 - 1 Repeat x-ray nondiagnostic for fracture
 - 2 Bone scan nondiagnostic for fracture⁽⁴⁾
 - 120 Nondisplaced femoral neck fracture **[All]**⁽⁵⁾
 - 121 Hip pain
 - 122 Hip pain increased by weight bearing/passive ROM
 - 123 Hip x-ray nondiagnostic for fracture
 - 130 Scaphoid fracture **[All]**
 - 131 Pain at scaphoid
 - 132 Pain with passive ROM/palpation of scaphoid
 - 133 X-ray nondiagnostic for fracture at initial evaluation
 - 134 Pain unimproved **after** immobilization \geq 2 wks **[Both]**
 - 1 Repeat x-ray nondiagnostic for fracture
 - 2 Bone scan/MRI nondiagnostic for fracture
- 200 Preoperative evaluation of osteomyelitis⁽⁶⁾
- 300 Suspected fracture nonunion **[One]**
 - 310 Nondisplaced fracture **[All]**

InterQual® criteria are intended solely for use as screening guidelines with respect to the medical appropriateness of healthcare services and not for final clinical or payment determination concerning the type or level of medical care provided, or proposed to be provided, to the patient.

The Clinical Content is confidential and proprietary information and is being provided to you solely as it pertains to the information requested. Under copyright law, the Clinical Content may not be copied, distributed or otherwise reproduced. Use permitted by and subject to license with McKesson Corporation and/or one of its subsidiaries.

InterQual® copyright © 2011 and CareEnhance® Review Manager copyright © 2011 McKesson Corporation and/or one of its subsidiaries. All Rights Reserved.

May contain CPT® codes. CPT only © 2010 American Medical Association. All Rights Reserved.

Licensed for use exclusively by Royal Health Care.

- 311 Symptoms at site **[One]**
 - 1 Pain by Hx
 - 2 Sensation of motion
- 312 Findings at site **[One]**
 - 1 Tenderness
 - 2 Deformity
 - 3 Swelling
 - 4 Motion
- 313 X-ray nondiagnostic for nonunion
- 314 Continued symptoms after immobilization \geq 12 wks
- 320 Displaced fracture **[All]**
 - 321 Symptoms at site **[One]**
 - 1 Pain by Hx
 - 2 Sensation of motion
 - 322 Findings at site **[One]**
 - 1 Tenderness
 - 2 Deformity $>$ 10 degrees in any plane
 - 3 Swelling
 - 4 Motion
 - 323 X-ray **[Both]**
 - 1 Nondiagnostic for nonunion
 - 2 Position of bone **[One]**
 - A) Angulation $>$ 10 degrees in any plane
 - B) Displacement of fracture
 - 324 Continued symptoms after immobilization \geq 12 wks
- 400 Suspected tarsal coalition **[Both]**^(7, 8, 9)
 - 410 Sx/findings **[One]**
 - 411 Pain at site
 - 412 Rigid flatfoot
 - 413 Pain increased with activity
 - 414 Decreased ROM in midfoot and hindfoot⁽¹⁰⁾
 - 420 X-ray nondiagnostic for tarsal coalition⁽¹¹⁾
- 500 Suspected bone tumor **[Both]**^(12*RIN)
 - 510 Sx/findings **[One]**
 - 511 Pain at site
 - 512 Bone lesion at site by imaging⁽¹³⁾
 - 520 Bone scan **[One]**
 - 521 Negative
 - 522 Single positive site

- 600 Follow-up single bone metastasis after Rx **[Both]**⁽¹⁴⁾
 - 610 Initial CT positive at site
 - 620 After chemotherapy/radiation Rx completed⁽¹⁵⁾

- 700 Follow-up primary bone tumor **[Both]**⁽¹⁴⁾
 - 710 Initial CT positive at site
 - 720 Periodic assessment **[One]**
 - 721 During chemotherapy⁽¹⁶⁾
 - 722 After chemotherapy/radiation Rx/surgery completed^(15, 17)
 - 723 New/worsening Sx/findings at site **[One]**
 - 1 Pain
 - 2 Swelling/mass

Notes

(1)-RIN:

For CT of the cervical, thoracic, or lumbar spine, see those criteria subsets in the *Spine* category.

(2)

Fractures may occur after trauma, as a result of repetitive or unusual activity (i.e., stress fracture), or at the site of a bony lesion (i.e., pathologic fracture). Bone scan is generally able to detect fractures within 24 hours after trauma, however in elderly, osteopenic patients with slower bone turnover the greatest sensitivity is found when the bone scan is done at 72 hours (Love et al., *Radiographics* 2003; 23(2): 341-358).

(3)-DEF:

Long bones include the humerus, radius, ulna, femur, tibia, and fibula.

(4)

Bone scan is the imaging study of choice for detecting occult fractures after a period of immobilization.

(5)

Whether to perform CT or MRI in this clinical situation is a matter of clinical judgment. Bone scan is another option; however, in elderly, osteopenic patients the most useful and sensitive diagnostic information may not be obtained until 72 hours after the injury (Love et al., *Radiographics* 2003; 23(2): 341-358).

(6)

CT and MRI can both be used to image osteomyelitis. CT is used to reveal the location and amount of bone destruction, but it is less sensitive for detecting early marrow changes not associated with cortical bone abnormalities (Tay et al., *J Am Acad Orthop Surg* 2002; 10(3): 188-197). MRI is superior for assessment of bone marrow involvement, vertebral end plate destruction, and the spread of infection into the spinal canal, nerve roots, and soft tissue (Nikkanen et al., *J Emerg Med* 2002; 22(3): 279-283; Stabler and Reiser, *Radiol Clin North Am* 2001; 39(1): 115-135).

(7)-DEF:

Tarsal coalition is an anomaly of the foot with variable degrees of union between tarsal bones (e.g., talus, calcaneus, cuboid, navicular). The most common types are talocalcaneal and calcaneonavicular. This anomaly results in rigidity of the foot and limited ROM.

(8)

Tarsal coalition is found in up to 2% of the population with the most common coalitions, talocalcaneal and calcaneonavicular, accounting for up to 90% of all cases. This condition seems to be congenital in most cases, but can be secondary to trauma or degenerative joint disease (Harty, *Radiol Clin North Am* 2001; 39(4): 733-748).

(9)

Symptoms in tarsal coalition may progress from fibrous to cartilaginous to osseous coalition (Joong and El-Khoury, *Am Fam Physician* 2007; 76(7): 975-983). Pain occurs with the progression of the condition due to the subsequent restriction of motion, evident with activity.

(10)

While a decrease in subtalar motion during PE may or may not be present in a calcaneonavicular coalition, a marked decrease or absence of subtalar motion is considered the cardinal sign of a talocalcaneal coalition.

(11)

Suspected tarsal coalition is initially evaluated by plain radiographs, but fibrous or cartilaginous coalitions may be difficult to detect and imaging with CT or MRI is required. CT is considered the gold standard in diagnosing tarsal coalition and is the most cost-effective imaging study (Harty, *Radiol Clin North Am* 2001; 39(4): 733-748).

(12)-RIN:

This indication addresses the initial diagnosis of a bone tumor, not the assessment of response to therapy. For suspected metastatic disease (pain at multiple sites, cancer by history) a bone scan provides information about occult metastases at other sites and is the appropriate initial study. For suspected metastatic disease, see the "Bone Scan" criteria subset.

(13)

CT measures the density of the lesion, examines the relationship between the lesion and the adjacent bone, and identifies otherwise undetected calcification or ossification. CT can also distinguish between lesions which appear similar on plain film and suggest a

diagnosis (Nomikos et al., Radiol Clin North Am 2002; 40(5): 971-990; Springfield, J Am Acad Orthop Surg 1994; 2(6): 306-316).

(14)

In many cases, x-ray may provide enough information to follow these lesions. X-ray should be considered as an alternative to CT or MRI.

(15)

The assessment is generally performed about 6 weeks after radiation is completed or after chemotherapy is completed.

(16)

The assessment is generally not necessary more frequently than every two cycles of chemotherapy.

(17)

These patients may be followed as frequently as every 3 months for the first 2 years after therapy and may receive continued periodic assessment as long as 5 years after initial treatment.