



Clinical Protocol: Imaging

SUBDEPARTMENT: N/A

POLICY NO.

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PREPARED BY: Adriana Martinez, Compliance Manager

APPROVED BY: Dan Kahen, DO- Medical Director

TITLE OF POLICY: MRI, Ankle

## PROTOCOL OVERVIEW

This Clinical Protocol advises on indications and guidelines for Ankle MRI.

## INDICATIONS/CRITERIA

Ankle MRI may be indicated for **1 or more** of the following:

1. Bone anatomy or structural defect evaluation needed, as indicated by **1 or more** of the following:
  - a. Accessory ossicles detected on plain x-ray or CT scan, and persistent pain
  - b. Arthrofibrosis
  - c. Articular cartilage defect, known or suspected
  - d. Bone abnormality on plain x-ray or CT scan
  - e. Bone scan demonstrating well-localized increased uptake
  - f. Loose body in joint space, suspected
  - g. Os trigonum, suspected
  - h. Osteochondral lesion or osteochondritis dissecans, suspected, as indicated by **ALL** of the following:
    - Normal or indeterminate findings on plain x-ray
    - Persistent pain, swelling, catching, clicking, or locking of ankle
  - i. Osteonecrosis, suspected, as indicated by **1 or more** of the following:
    - Focal radiolucency seen on plain x-ray
    - Pain, stiffness, and swelling associated with localized tenderness to pressure
    - Persistent pain in patient with risk factors for osteonecrosis (eg, sickle cell disease, use of chronic corticosteroid)
  - j. Tarsal coalition, known or suspected, as indicated by **ALL** of the following:
    - Diminished range of motion of subtalar joint
    - Painful rigid flatfoot, present with and without weight-bearing
    - Weight-bearing plain x-ray examination revealing **1 or more** of the following:
      - "Anteater" nose sign
      - Beaking of anterior talus
      - Calcaneonavicular coalition or talocalcaneal coalition
    - CT scan contraindicated or not available, or results indeterminate
2. Cancer or neoplasm evaluation or staging needed, as indicated for **1 or more** of the following:
  - i. Bone neoplasm (benign or malignant), as indicated by **1 or more** of the following:
    - a. Abnormal finding on plain x-ray or bone scan
    - b. Chondrosarcoma and **1 or more** of the following:

- Initial staging
  - Monitoring response after treatment completed
  - Post-treatment surveillance for local tumor recurrence; intervals include **1 or more** of the following:
    - Low-grade and intracompartmental: every 6 to 12 months for 2 years, then annually as clinically indicated
    - High-grade (ie, grade II or III), clear cell, or extracompartmental: as clinically indicated[A]
- c. Current diagnosis or history of cancer located elsewhere and **1 or more** of the following:
- Plain x-ray or bone scan findings indeterminate
  - Unexplained localized bony signs and symptoms (eg, pain)
- d. Ewing sarcoma family of tumors and **1 or more** of the following:
- Initial staging
  - Monitoring response after treatment completed
  - Post-treatment surveillance for local tumor recurrence; intervals include **1 or more** of the following:
    - Every 2 to 3 months for first 2 years, then decreasing frequency through year 5
    - Annually after 5 years
- e. Osteosarcoma and **1 or more** of the following:
- Initial staging
  - Monitoring response after chemotherapy or radiation therapy
  - Post-treatment surveillance for local tumor recurrence; intervals include **1 or more** of the following:
    - Every 3 months for 2 years
    - Every 4 months for year 3
    - Every 6 months for years 4 and 5
    - Annually after 5 years
- f. Palpable bony abnormality, with normal findings on plain x-ray
- g. Sarcoma, soft tissue, and **1 or more** of the following:
- Initial staging
  - Local recurrence
  - Post-treatment (eg, surgery, neoadjuvant therapy) surveillance: baseline and periodic imaging of primary site based on estimate of locoregional recurrence
- h. Soft tissue mass, as indicated by **1 or more** of the following:
- Causing pain
  - Concern for effect on adjacent anatomic structures
  - Deep or large mass
  - Mass that crosses anatomic boundaries
  - Plain x-ray or other imaging study findings negative or indeterminate
  - Preoperative planning for biopsy or surgical treatment
  - Progressively enlarging
  - Vascular lesion that is expanding or causing change in color of overlying skin

3. Charcot joint (neuropathic osteodystrophy), known or suspected, as indicated by **ALL** of the following:
  - a. Imaging results will impact treatment plan (eg, identify underlying infection).
  - b. Plain x-ray results indeterminate
4. Infection, known or suspected, as indicated by **1 or more** of the following:
  - a. Osteomyelitis, suspected, as indicated by **1 or more** of the following:
    - Abscess of residual limb, suspected, following lower extremity amputation for osteomyelitis
    - Bone pain (localized) associated with chills or fever
    - Bone pain (persistent) in patient with diabetes or severe peripheral vascular disease
    - Cellulitis that responds poorly to antibiotics
    - Focal lesion seen on bone scan
    - Sinus tract infection from ulcer, suspected
    - Ulcer of lower extremity, persistent or worsening, in patient with diabetes or severe peripheral vascular disease
  - b. Soft tissue or muscle abscess, known or suspected, performed for planning of biopsy or surgical treatment
5. Ligament, muscle, or tendon injury or other ankle joint pathology, known or suspected, as indicated
6. Pain localized to ankle or heel, as indicated by **1 or more** of the following:
  - a. Ankle impingement, suspected, as indicated by **1 or more** of the following:
    - Anterolateral pain with forced dorsiflexion (eg, anterior impingement)
    - Positive posterior impingement test (pain with forced hyperplantar flexion)
    - Posterior ankle joint pain with deep palpation
    - Reduced range of dorsiflexion (eg, anterior impingement)
  - b. Juvenile idiopathic arthritis with ankle involvement, for assessment of joint involvement and treatment (ie, intra-articular glucocorticoid injection)
  - c. Persistent pain after ankle sprain or other injury, as indicated by **ALL** of the following:
    - Normal findings on plain x-ray
    - Pain not improving after 7 days of conservative therapy (eg, non-weight-bearing, ice, and elevation)
  - d. Spondyloarthritis with suspected hindfoot involvement, as indicated by **1 or more** of the following:
    - Ankylosing spondylitis
    - Inflammatory bowel disease-associated arthritis
    - Psoriatic arthritis
    - Reactive arthritis (Reiter disease)
    - Undifferentiated spondyloarthritis
  - e. Unclear etiology, with normal or indeterminate findings on plain x-ray
  - f. Peripheral neuropathy, and imaging required to assist in diagnosis or treatment
  - g. Postoperative assessment following repair of ankle cartilage, ligaments, or tendons
7. Synovial pathology, known or suspected, as indicated by **1 or more** of the following:
  - a. Chronic synovitis secondary to ankle hemarthrosis of hemophilia
  - b. Preoperative planning or postoperative surveillance (following synovectomy) for pigmented villonodular synovitis
  - c. Synovial cyst
8. Trauma or fracture, known or suspected, as indicated by **1 or more** of the following:

- a. Fatigue stress fracture (ie, due to abnormal stress on normal bone), suspected, as indicated by **ALL** of the following:
    - History of overuse or excessive activity
    - Localized pain
    - Plain x-ray results negative or indeterminate and **1 or more** of the following:
      - Definitive diagnosis needed in athlete, and study will change management
      - Symptoms persist or recur despite rest.
  - b. Fracture of lateral aspect of lateral malleolus (with injury to superior peroneal retinaculum)
  - c. Fracture of os peroneum (with tear of peroneus longus tendon)
  - d. Insufficiency stress fracture (ie, due to normal stress on abnormal bone), suspected, as indicated by **ALL** of the following:
    - Localized ankle or heel pain
    - No evidence of fracture on plain x-ray and **1 or more** of the following:
      - Concern for insufficiency stress fracture at high-risk site (eg, anterior tibial cortex, hallucal sesamoid, medial malleolus, navicular bone, proximal fifth metatarsal, talus)
      - Definitive diagnosis needed in athlete, and study will change management
      - Persistent symptoms after trial (eg, 2 to 3 weeks) of conservative treatment for insufficiency stress fracture (eg, activity modification, immobilization, or relative rest)
  - e. Patient at risk for stress fracture (eg, osteopenia, long-term corticosteroid use)
9. Repeat evaluation of specific area or structure with same imaging modality, as indicated by 1 or more of the following:
- a. Change in clinical status (eg, worsening symptoms or new associated symptoms)
  - b. Need for interval reassessment that may impact treatment plan
  - c. Need for re-imaging either prior to or after performance of invasive procedure

## RECOMMENDED RECORDS

Please submit history and physical or progress notes that show the symptoms, exam findings, and any pertinent diagnostic tests that may have been done. (i.e. X-ray, ultrasound).

## CITATIONS

MCG Care Guidelines 27th Edition, 2/28/2023 <https://www.mcg.com/client-resources/news-item/mcg27th-edition-care-guidelines>