Cohere Medical Policy - Magnetic Resonance Imaging (MRI), Lower Extremity

Clinical Policy for Medical Necessity Review

Version: 5
Cohere Health UMC Approval Date: September 11, 2025
Last Annual Review: September 11, 2025
Revision: Not Applicable
Next Annual Review: September 11, 2026

Important Notices

Notices & Disclaimers:

GUIDELINES ARE SOLELY FOR COHERE'S USE IN PERFORMING MEDICAL NECESSITY REVIEWS AND ARE NOT INTENDED TO INFORM OR ALTER CLINICAL DECISION-MAKING OF END USERS.

Cohere Health, Inc. ("**Cohere**") has published these clinical guidelines to determine the medical necessity of services (the "**Guidelines**") for informational purposes only, and solely for use by Cohere's authorized "**End Users**". These Guidelines (and any attachments or linked third-party content) are not intended to be a substitute for medical advice, diagnosis, or treatment directed by an appropriately licensed healthcare professional. These Guidelines are not in any way intended to support clinical decision-making of any kind; their sole purpose and intended use is to summarize certain criteria Cohere may use when reviewing the medical necessity of any service requests submitted to Cohere by End Users. Always seek the advice of a qualified healthcare professional regarding any medical questions, treatment decisions, or other clinical guidance. The Guidelines, including any attachments or linked content, are subject to change at any time without notice.

Other Notices:

Fee schedules, relative value units, conversion factors and/or related components are not assigned by the AMA, are not part of CPT, and the AMA is not recommending their use. The AMA does not directly or indirectly practice medicine or dispense medical services. The AMA assumes no liability for data contained or not contained herein.

Guideline Information:

Specialty Area: Diagnostic Imaging
Policy Name: Cohere Medical Policy - Magnetic Resonance Imaging (MRI), Lower Extremity
Type: [**X**] Adult (18+ yo) | [**X**] Pediatric (0-17yo)

Table of Contents

Medical Necessity Criteria

Service: Magnetic Resonance Imaging (MRI), Lower Extremity

Cohere Health takes an evidence-based approach to reviewing imaging and procedure requests, meaning that sufficient clinical information must be provided at the time of submission to determine medical necessity. Documentation must include a recent and detailed history, physical examination related to the onset or change in symptoms, relevant lab results, prior imaging, and details of previous treatments. Advanced imaging or procedures should be requested after a clinical evaluation by the treating provider, which may include a referral to a specialist.

- When a specific clinical indication is not explicitly addressed in the Cohere Health medical policy, medical necessity will be determined based on established clinical best practices, as supported by evidence-based literature, peer-reviewed sources, professional society guidelines, and state or national recommendations, unless otherwise directed by the health plan.
- Requests submitted without clinical documentation, or those that do not align with the provided clinical information—such as mismatched laterality, body part, or CPT code—may be denied for lack of medical necessity due to insufficient or inconsistent clinical information.
- Repeat diagnostic testing due to technical issues—such as patient motion, incomplete exams, or incorrect imaging sequences—may not be considered medically necessary, as it is the responsibility of the imaging center to deliver appropriate, high-quality studies as originally authorized. Similarly, repeat imaging requested at a different facility based solely on provider preference may not be approved for medical necessity.
- When there are multiple diagnostic or therapeutic procedures requested simultaneously or within the past three months, each will be reviewed independently. Clinical documentation must clearly justify all of the following:
    - The medical necessity of each individual request
    - Why prior imaging or procedures were inconclusive or why additional/follow-up studies are needed

    - How the results will impact patient management or treatment decisions
- Requests involving adjacent or contiguous body parts may be considered not medically necessary if the documentation demonstrates that the patient's primary symptoms can be adequately assessed with a single study or procedure.
- Cohere Health evaluates imaging exams based on medical necessity, regardless of contrast use. If an initial non-contrast study is completed and the radiologist later determines that contrast is needed to clarify a finding, the original authorization number may be used—provided the contrast-enhanced exam is performed at the same imaging center and within the original request's validity period, unless otherwise directed by the health plan.

Description

Magnetic resonance imaging (MRI) is segmented into joint and non-joint distribution and may be performed without or with contrast (intravenous or intra-articular). Based on the clinician and supervising radiologist's discussion, alternate modalities may sometimes be more clinically appropriate.

Medical Necessity Criteria

Indications

Magnetic resonance imaging (MRI), lower extremity is considered appropriate if **ALL** of the following is **TRUE**:

- Plain radiographs or ultrasound of the area of concern are non-diagnostic or inconclusive, and have been completed during the current episode of symptoms and/or change in symptoms; **AND**
- **ANY** of the following is **TRUE**:
  - Fracture and **ANY** of the following is **TRUE**[1-4]:
    - Suspected fracture after indeterminate or normal radiographs; **OR**
    - Suspected stress/insufficiency fracture (including bisphosphonate-related fractures) with negative radiographs; **OR**
    - Known stress/insufficiency fracture with new or worsening symptoms and radiographs are inconclusive; **OR**
    - Suspected pathologic fracture on imaging; **OR**
    - Known fracture on radiographs with concern for internal derangement; **OR**
    - Known osteochondral lesion[5,6]; **OR**
  - Preoperative imaging for surgical planning when surgery is already planned, including but not limited to, complex fracture/dislocations, delayed union, or non-union of fractures, osteotomy, or joint fusions, complete tendon ruptures, bone lesions, soft tissue tumors, joint replacement when requested by an orthopedic surgeon and conventional imaging is inconclusive; **OR**
  - Postoperative evaluation for **ANY** of the following[7]:
    - Joint prosthesis loosening or complication (i.e., pseudotumor, osteolysis); **OR**
    - Postoperative complications, such as infection, hardware failure/migration, tendon re-rupture, or failure to heal after initial nondiagnostic radiograph; **OR**
  - Dislocation or syndesmotic injury and **ANY** of the following[8,9]:
    - Dislocation and concern for internal derangement or occult fracture; **OR**
    - History and/or exam consistent with patellofemoral dislocation; **OR**
    - Syndesmotic (ankle) injury on radiographs; **OR**
  - Diagnosis and surveillance of soft tissue masses/neoplasms and **ANY** of the following is **TRUE**[10] (Note: Clearly benign findings on exam or

imaging [lipoma, hematoma, ganglion, or sebaceous cyst] do not usually require advanced imaging except for preoperative planning or if diagnosis is uncertain):
    - Suspected malignant primary or metastatic tumor; **OR**
    - To monitor response to treatment for **ANY** of the following[11]:
        - Baseline imaging (i.e., postoperative); **OR**
        - Periodic imaging of primary site based upon risk of locoregional recurrence; **OR**
        - Long-term follow-up; **OR**
        - End-of-treatment imaging; **OR**
    - Signs or symptoms suggesting recurrence; **OR**
- Detection, screening, and surveillance of bone tumors and **ANY** of the following is **TRUE** (Note: Clearly benign findings on exam or imaging [enchondroma, bone island, simple bone cyst] do not usually require advanced imaging except for preoperative planning or if the diagnosis is uncertain):
    - Suspected malignant primary or metastatic tumor; **OR**
    - To monitor response to treatment (per NCCN guidelines) for **ANY** of the following[12]:
        - Ewing sarcoma; **OR**
        - Giant cell tumor of the bone; **OR**
        - Osteosarcoma; **OR**
    - Signs or symptoms suggesting recurrence; **OR**
- Infectious disorder is suspected (osteomyelitis, soft tissue abscess, or septic arthritis) and **ANY** of the following[13,14]:
    - Abnormal x-ray or ultrasound; **OR**
    - Radiographs and/or ultrasound are normal or inconclusive, and **ANY** of the following:
        - Initial laboratory testing (CBC, ESR, C-reactive protein) suggests infection; **OR**
        - **ANY** of the following positive physical exam findings concerning for infection:
            - Hot and swollen joint; **OR**
            - Decreased range of motion due to pain; **OR**
            - Fever; **OR**
            - History of puncture wound with possible retained foreign body; **OR**
            - High clinical suspicion of necrotizing fasciitis; **OR**

- Vascular conditions, known or suspected, including **ANY** of the following[15]:
  - Osteonecrosis or avascular necrosis, known or suspected, and **ANY** of the following:
    - With negative radiographs and at high risk; **OR**
    - Abnormal imaging (radiography/CT) needing further characterization; **OR**
    - Known osteonecrosis of contralateral hip; **OR**
- Concern for rupture or tear of a tendon, ligament (including syndesmotic injury), or other soft tissue injury (including labrum tear) based on **ANY** of the following:
  - Symptoms were the direct result of a preceding acute injury, and surgery is being considered; **OR**
  - Joint-specific orthopedic evaluation and maneuvers suggest a tear; **OR**
  - Symptoms were not the direct result of a preceding acute injury (i.e., new symptoms that are not the result of a traumatic injury), surgery is being considered, and **ANY** of the following:
    - Documented failure of at least 6 weeks of conservative treatment within the past 6 months, including **ALL** of the following:
      - Anti-inflammatory medications, non-opioid analgesics, or prescription medications (e.g., oral steroids, neuropathic pain medications) if not contraindicated; **AND**
      - Physical therapy or a provider-directed home exercise program (HEP)[A]; **OR**
    - Worsening of symptoms during the trial of conservative treatment; **OR**
- For evaluation of **ANY** of the following uncategorized/miscellaneous symptoms when applicable:
  - Marrow abnormalities[10,16]; **OR**
  - Joint-specific orthopedic evaluation and maneuvers suggest a tear; **OR**
  - **ALL** of the following:
    - Persistent joint/muscle pain or weakness, unresponsive to conservative treatment; **AND**
    - **ANY** of the following:

        - Documented failure of at least 6 weeks of conservative treatment within the past 6 months, including **ALL** of the following:
            - Anti-inflammatory medications, non-opioid analgesics, or prescription medications (e.g., oral steroids, neuropathic pain medications) if not contraindicated; **AND**
            - Physical therapy, chiropractic care, or a provider-directed home exercise program (HEP)[A]; **OR**
        - Inability to complete conservative treatment for 6 weeks due to worsening symptoms; **OR**
    - Vascular or lymphatic malformation (with or without pain) are suspected and **ANY** of the following findings of physical deformity[17]:
        - Diffuse or focal enlargement; **OR**
        - Discoloration; **OR**
        - Soft-tissue mass; **OR**
        - Ulceration; **OR**
    - Neuropathy, nerve entrapment, or nerve lesion with **ANY** of the following[16,18]:
        - Clinically suspected nerve entrapment and **ALL** of the following are **TRUE**:
            - Abnormal EMG; **AND**
            - MRI is to assist in diagnosis and treatment options; **OR**
        - Known peripheral nerve sheath tumor and **ANY** of the following:
            - Enlarging mass; **OR**
            - New or worsening localized pain; **OR**
            - Recurrence after prior resection; **OR**
        - Persistent symptoms following conservative treatment; **OR**
        - Localized EMG abnormality; **OR**
        - Trauma/ injury with suspected nerve injury or laceration based on site of injury and associated neurological deficits; **OR**
    - Screening, surveillance, or follow-up of autoimmune, collagen vascular diseases, or inflammatory conditions (e.g., inflammatory arthritis)if radiographs are normal or inconclusive[19]; **OR**
    - Synovial-related disorders (e.g., synovitis, bursitis, metaplasia, and neoplasia)[1]; **OR**
- Repeat imaging (defined as a repeat request following recent imaging of the same anatomic region with the same or similar modality) will be considered reasonable and necessary if **ALL** of the following are **TRUE**:

- There are no established guidelines; **AND**
- **ANY** of the following:
  - There are new or worsening symptoms not addressed in the guidelines, such that repeat imaging would influence treatment; **OR**
  - There is need for a one-time clarifying follow-up of a prior indeterminate finding; **OR**
  - In the absence of change in symptoms, there is an established need for monitoring which would influence management.

Non-Indications

Magnetic resonance imaging (MRI), lower extremity may not be considered appropriate if **ANY** of the following is **TRUE**:

- A diagnosis of osteoid osteoma; **OR**
- The patient has undergone advanced imaging of the same body part within 3 months without undergoing treatment or developing new or worsening symptoms.[20]

*NOTE: MRI in patients with claustrophobia should be requested at the discretion of the ordering provider.
**NOTE: MRI in pregnant patients should be requested at the discretion of the ordering provider and obstetric care provider.

Definitions

[A]**Provider-directed home exercise programs (HEP)** should include[21]:
- Patient education of prescribed exercises with written instructions,
- Documentation of patient compliance with the HEP.

Disclaimer on Radiation Exposure in Pediatric Populations

Due to the heightened sensitivity of pediatric patients to ionizing radiation, minimizing exposure is paramount. At Cohere, we are dedicated to ensuring that every patient, including the pediatric population, has access to appropriate imaging following accepted guidelines. Radiation risk is dependent mainly on the patient's age at exposure, the organs exposed, and the patient's sex, though there are other variables. The following technical guidelines are provided to ensure safe and effective imaging practices:

Radiation Dose Optimization: Adhere to the lowest effective dose principle for pediatric imaging. Ensure that imaging protocols are specifically tailored for pediatric patients to limit radiation exposure.[22,23]

Alternative Modalities: Prioritize non-ionizing imaging options such as ultrasound or MRI when clinically feasible, as they are less likely to expose the patient to ionizing radiation. For instance, MRI or ultrasound should be considered if they are more likely to provide an accurate diagnosis than CT, fluoroscopy, or radiography.[22,23]

Cumulative Dose Monitoring: Implement systems to track cumulative radiation exposure in pediatric patients, particularly for those requiring multiple imaging studies. Regularly reassess the necessity of repeat imaging based on clinical evaluation.[22,23]

CT Imaging Considerations: When CT is deemed the best method for achieving a correct diagnosis, use the lowest possible radiation dose that still yields reliable diagnostic images.[22,23]

Cohere Imaging Gently Guideline: The purpose of this guideline is to act as a potential override when clinically indicated to adhere to Imaging Gently and Imaging Wisely guidelines and As Low As Reasonably Possible (ALARA) principles.

Level of Care Criteria

Inpatient or Outpatient

Procedure Codes (CPT/HCPCS)

CPT/HCPCS Code	Code Description
73718	Magnetic resonance imaging (MRI) (e.g., proton), lower extremity other than joint; without contrast material(s)
73719	Magnetic resonance imaging (MRI) (e.g., proton),of lower extremity (other than joint); with contrast material(s)
73720	Magnetic resonance imaging (MRI) (e.g., proton), lower extremity other than joint; without contrast material(s), followed by contrast material(s) and further sequences
73721	Magnetic resonance imaging (MRI) (e.g., proton), any joint of lower extremity; without contrast material
73722	Magnetic resonance imaging (MRI) (e.g., proton), any joint of lower extremity; with contrast material(s)
73723	Magnetic resonance imaging (MRI) (e.g., proton), any joint of lower extremity; without contrast material(s) followed by contrast material(s) and further sequences

Medical Evidence

Drake et al. (2022) conducted a systematic review and meta-analysis of observational studies comparing medical imaging (specifically magnetic resonance imaging [MRI]) of adults with plantar heel pain (PHP). A total of 42 studies were included. Patients with PHP had higher rates of thickened plantar fascia (greater than 4 mm) as well as abnormal plantar fascia tissue, a thicker loaded plantar heel fat pad on ultrasound, and a plantar calcaneal spur on plain film x-ray. Continued research is needed on high-quality imaging to increase the accuracy of MRI.[24]

Lansdown and Ma (2020) review the clinical utility of advanced imaging of the knee. MRI excels in sensitivity and specificity for diagnosing injuries such as ligament, meniscus, and full-thickness cartilage defects in the knee. High-resolution qualitative assessment ensures accurate detection and characterization of these conditions. Utilizing compositional MRI sequences enables an assessment of the biochemical characteristics of cartilage, meniscus, and ligaments, providing additional insights into pathology beyond traditional imaging. Progress in image processing, shape modeling, and dynamic studies is an innovative approach to assess conditions of the lower extremity and to track post-treatment outcomes.[25]

Warner et al. (2019) conducted a study to compare the diagnostic efficacy of injury (non-stress) and stress radiographs vs MRI to identify deep deltoid ligament ruptures among patients with operative supination-external rotation (SER) ankle fractures. The medial clear space (MCS) was considered to be positive if measurements exceeded 5 mm on either injury or stress mortise radiographs. Compared to intra-operative visualization, MCS measurements and MRI exhibited differential diagnostic capabilities for identifying deep deltoid ruptures. When MCS measured less than 5 mm on injury radiographs with subsequent stress testing, MCS assessments proved less accurate than MRI in predicting deltoid ruptures (46% vs 79%, respectively), with a notably high false positive rate (80%). An MCS exceeding 5 mm on injury radiographs strongly correlated with deep deltoid rupture diagnosis (accuracy of 95%). In contrast, to direct intra-operative visualization of the deltoid ligament, these findings advocate for surgical intervention when MCS measures greater than 5 mm on injury radiographs without necessitating additional stress tests or

advanced imaging. However, MRI analysis is recommended when MCS measures less than 5 mm because of its heightened accuracy and reduced false positive rates. Enhanced diagnostic capabilities promise more effective management of patients with SER ankle fractures.[3]

References

1. Ross AB, Lee KS, et al. ACR appropriateness criteria-acute hip pain, suspected fracture. *J Am Coll Radiol*. 2019 May;16(5S):S18-S25. doi:10.1016/j.jacr.2019.02.028
2. Bencardino JT, Stone TJ, et al. ACR appropriateness criteria - stress (fatigue/insufficiency) fracture, including sacrum, excluding other vertebrae. *J Am Coll Radiol*. 2017 May;14(5S):S293-S306. doi:10.1016/j.jacr.2017.02.035
3. Warner SJ, Garner MR, Fabricant PD, et al. The diagnostic accuracy of radiographs and magnetic resonance imaging in predicting deltoid ligament ruptures in ankle fractures. *HSS J*. 2019 Jul;15(2):115-121. doi:10.1007/s11420-018-09655-x
4. Taljanovic MS, Chang EY, et al. ACR appropriateness criteria - acute trauma to the knee. *J Am Coll Radiol*. 2020 May;17(5S):S12-S25. doi:10.1016/j.jacr.2020
5. Fox MG, et al. ACR appropriateness criteria - chronic hip pain: 2022 update. *J Am Coll Radiol*. 2023 May;20(5S):S33-S48. doi:10.1016/j.jacr.2023.02.019
6. American Academy of Orthopaedic Surgeons Management of Acute Meniscal Pathology Evidence-Based Clinical Practice Guideline. aaos.org/ampcpg Published June 10, 2024.
7. Gorbachova T, Chang EY, et al. ACR appropriateness criteria - acute trauma to the foot. *J Am Coll Radiol*. 2020 May;17(5S):S2-S11. doi:10.1016/j.jacr.2020.01.019
8. Smith SE, Chang EY, et al. ACR appropriateness criteria - acute trauma to the ankle. *J Am Coll Radiol*. 2020 Nov;17(11S):S355-S366. doi:10.1016/j.jacr.2020.09.014
9. Pauyo T, Park JP, Bozzo I, Bernstein M. Patellofemoral Instability Part I: Evaluation and Nonsurgical Treatment. *J Am Acad Orthop Surg*. 2022;30(22):e1431-e1442. doi:10.5435/JAAOS-D-22-00254
10. American College of Radiology (ACR). ACR practice parameter for performing and interpreting magnetic resonance imaging (MRI) - resolution 8. Updated 2022. https://gravitas.acr.org/PPTS/GetDocumentView?docId=146

11. Von Mehren M, Kane JM, Agulnik M, et al. Soft Tissue Sarcoma, Version 2.2022, NCCN Clinical Practice Guidelines in Oncology. *J Natl Compr Canc Netw*. 2022;20(7):815-833. doi:10.6004/jnccn.2022.0035
12. Biermann JS, Hirbe A, Ahlawat S, et al. Bone Cancer, Version 2.2025, NCCN Clinical Practice Guidelines In Oncology. *J Natl Compr Canc Netw*. 2025;23(4):e250017. doi:10.6004/jnccn.2025.0017
13. Bury DC, Rogers TS, Dickman MM. Osteomyelitis: Diagnosis and treatment. *Am Fam Physician*. 2021 Oct;104(4):395-402
14. Pierce JL, Perry MT, et al. ACR appropriateness criteria - Suspected osteomyelitis, septic arthritis, or soft tissue infection (excluding spine and diabetic foot): 2022 Update. *J Am Coll Radiol*. 2022 Nov;19(11S):S473-S487. doi:10.1016/j.jacr.2022.09.013
15. Ha AS, Chang EY, et al. ACR appropriateness criteria - osteonecrosis: 2022 update. *J Am Coll Radiol*. 2022 Nov;19(11S): S409-S416. doi:10.1016/j.jacr.2022.09.009
16. Stanborough R, Demertzis JL, et al. ACR appropriateness criteria: Malignant or aggressive primary musculoskeletal tumor, staging and surveillance: 2022 Update. *J Am Coll Radiol*. 2022 Nov;19(11S):S374-S389. doi:10.1016/j.jacr.2022.09.015
17. Obara P, McCool J, et al. ACR Appropriateness criteria - Clinically suspected vascular malformation of the extremities. *J Am Coll Radiol*. 2019 Nov;16(11S):S340-S347. doi:10.1016/j.jacr.2019.05.013
18. Roberts CC, Kransdorf MJ, Beaman FD, et al. ACR appropriateness criteria - follow-up of malignant or aggressive musculoskeletal tumors. *J Am Coll Radiol*. 2016 Apr;13(4):389-400. doi:10.1016/j.jacr.2015.12.019
19. Subhas N, Wu F, et al. ACR appropriateness criteria - chronic extremity joint pain - suspected inflammatory arthritis, crystalline arthritis, or erosive osteoarthritis: 2022 update. *J Am Coll Radiol*. 2023 May;20(5S):S20-S32. doi:10.1016/j.jacr.2023.02.020
20. Wasser EJ, Prevedello LM, Sodickson A, Mar W, Khorasani R. Impact of a real-time computerized duplicate alert system on the utilization of computed tomography. *JAMA Intern Med*. 2013;173(11):1024-1026. doi:10.1001/jamainternmed.2013.543
21. Argent R, Daly A, Caulfield B. Patient Involvement With Home-Based Exercise Programs: Can Connected Health Interventions Influence

Adherence? *JMIR mHealth uHealth*. 2018;6(3):e47. Published 2018 Mar 1. doi:10.2196/mhealth.8518

22. The Image Gently Alliance. Procedures - Image Gently and CT scans. Updated 2025. https://www.imagegently.org/Procedures/Computed-Tomography
23. National Cancer Institute. Radiation risks and pediatric computed tomography (CT): A guide for health care. Updated September 4, 2018. https://www.cancer.gov/about-cancer/causes-prevention/risk/radiation/pediatric-ct-scans
24. Drake C, Whittaker GA, Kaminski MR, et al. Medical imaging for plantar heel pain: a systematic review and meta-analysis. *J Foot Ankle Res*. 2022 Jan 22;15(1):4. doi:10.1186/s13047-021-00507-2
25. Lansdown DA, Ma CB. Clinical utility of advanced imaging of the knee. *J Orthop Res*. 2020 Mar;38(3):473-482. doi:10.1002/jor.24462

Policy Revision History/Information

Original Date: April 1, 2022		
Review History		
Version 2	09/05/2024	Annual review and policy restructure.
Version 3	10/30/2024	Edited repeat imaging criteria language.
Version 4	2/20/2025	Replaced conservative care requirement with current standard language. Provided an avenue for approval for preoperative imaging. Loosened requirement for injury evaluation - no longer requires suspicion of "high-grade" tear.
Version 5	09/11/2025	Annual review. Consolidated indications (e.g., plain radiograph indications). Separated lines with multiple indications (e.g., persistent symptoms following treatment and localized EMG abnormality). Included a note in the bone tissue and soft tissue masses/neoplasms indications that clarifies that clearly benign findings on exam or imaging do not usually require advanced imaging except for preoperative planning or if diagnosis is uncertain. Update conservative care language. Removed relative contraindications (contrast allergy, metallic clips, incompatible implantable devices, metallic foreign body).