



## **Cohere Medical Policy - Magnetic Resonance Imaging (MRI), Upper Extremity**

*Clinical Policy for Medical Necessity Review*

**Version: 5**

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# Important Notices

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## Policy Information:

**Specialty Area:** Diagnostic Imaging

**Policy Name:** Cohere Medical Policy - Magnetic Resonance Imaging (MRI), Upper Extremity

**Type:**  Adult (18+ yo) |  Pediatric (0-17 yo)

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# Medical Necessity Criteria

## ***Service: Magnetic Resonance Imaging (MRI), Upper 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 an advanced imaging modality used when further anatomic detail is required for diagnosis or treatment. It is segmented into joint and non-joint examinations and may be performed without or with contrast (IV or intra-articular). Metal hardware can limit certain exams and is generally inappropriate for imaging by 3 Tesla scanners. MRI of the upper extremity is noninvasive and is generally a simple outpatient procedure, and claustrophobia is less of an issue because an extremity MRI scanner does not require the patient to lay inside the tube-like scanner.<sup>1-2</sup>

## Medical Necessity Criteria

### Indications

**Magnetic resonance imaging (MRI), upper extremity** is appropriate if **ALL** of the following are **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**<sup>3-5</sup>:
    - Suspected fracture after indeterminate or normal radiographs<sup>6</sup>; **OR**
    - Suspected stress/insufficiency fracture with negative radiographs<sup>7</sup>; **OR**
    - Known stress/insufficiency fracture with new or worsening symptoms and radiographs are inconclusive<sup>7</sup>; **OR**
    - Suspected pathologic fracture on imaging; **OR**
  - Preoperative imaging for **ANY** of the following:
    - Prior to shoulder arthroplasty when requested by an orthopedic surgeon (CT may also be approved)<sup>8</sup>; **OR**
    - Prior to non-arthroplasty surgical management of glenohumeral osteoarthritis (e.g. arthroscopy, distal clavicle resection/excision) only when there is evidence of rotator cuff tear; **OR**
    - For purposes of preoperative evaluation and surgical planning, 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 orthopedic surgeon and conventional imaging is inconclusive<sup>2</sup>; **OR**
  - Post-operative evaluation for **ANY** of the following:
    - Joint prosthesis loosening or complication (i.e., pseudotumor) after initial radiograph; **OR**
    - Post-operative complications such as hardware failure/migration, tendon re-rupture, or failure to heal after initial non-diagnostic radiograph; **OR**
  - Dislocation and **ANY** of the following<sup>3,4,9-11</sup>:
    - Recurrent anterior shoulder dislocation or subluxation; **OR**
    - First-time shoulder dislocation with **ANY** of the following:
      - Patient is less than 40 years of age; **OR**

- Patient is greater than 40 years of age with exam findings concerning for rotator cuff tear; **OR**
  - Abnormal radiographs (i.e., - Bankart, Hill-Sachs lesion); **OR**
- Dislocation of other upper extremity joint and concern for internal derangement or occult fracture; **OR**
- Diagnosis and surveillance of soft tissue masses/neoplasms and **ANY** of the following is **TRUE**<sup>2,12</sup>:
  - Suspected malignant primary or metastatic tumor<sup>13</sup>; **OR**
  - To monitor response for **ANY** of the following<sup>14</sup>:
    - 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**
  - 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; **OR**
- Detection, screening, and surveillance of bone tumors and **ANY** of the following is **TRUE**<sup>15</sup>:
  - Suspected malignant primary or metastatic tumor<sup>13</sup>; **OR**
  - To monitor response to treatment for **ANY** of the following<sup>16</sup>:
    - Ewing sarcoma; **OR**
    - Giant cell tumor of the bone; **OR**
    - Osteosarcoma; **OR**
  - Signs or symptoms suggesting recurrence; **OR**
  - 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; **OR**
- Infectious disorder is suspected (osteomyelitis, soft tissue abscess, or septic arthritis) and **ANY** of the following:
  - Abnormal radiograph or ultrasound<sup>17</sup>; **OR**
  - Radiographs and/or ultrasound are normal or inconclusive and **ANY** of the following<sup>18-19</sup>:
    - 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:
  - Osteonecrosis or avascular necrosis, known or suspected, (e.g., suspected Kienböck's disease) and **ANY** of the following:
    - With negative radiographs and at high risk<sup>20-22</sup>; **OR**
    - Abnormal imaging (radiograph/CT) needing further characterization; **OR**
  - Vascular or lymphatic malformation (with or without pain) and **ANY** of the following findings of physical deformity are suspected<sup>23</sup>:
    - Diffuse or focal enlargement; **OR**
    - Discoloration; **OR**
    - Soft-tissue mass; **OR**
    - Ulceration; **OR**
- Concern for rupture or tear of a tendon, ligament, 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**
  - Symptoms were not the direct result of a preceding acute injury (i.e., new symptoms but they 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 physician-prescribed home exercise program; **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<sup>12,13</sup>; **OR**
- **ALL** of the following:
  - Persistent joint/muscle pain or weakness unresponsive to conservative treatment; **AND**<sup>24,25</sup>:
  - **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 physician-prescribed home exercise program; **OR**
    - Inability to complete conservative treatment for 6 weeks due to worsening symptoms; **OR**
- Neurological symptoms or deficits with **ANY** of the following<sup>26</sup>:
  - Peripheral nerve sheath tumor suspected with **ANY** of the following:
    - Enlarging mass; **OR**
    - New or worsening localized pain; **OR**
    - Recurrence after prior resection; **OR**
  - Localized EMG abnormality; **OR**
  - Persistent symptoms or suspected nerve entrapment as confirmed by abnormal EMG; **OR**
  - Trauma or injury with suspected nerve injury or laceration; **OR**
  - Initial diagnosis or follow-up of autoimmune, collagen vascular diseases, or inflammatory conditions (e.g., inflammatory arthritis) if radiographs are normal or inconclusive<sup>19</sup>; **OR**
  - Synovial-related disorders (e.g., synovitis, bursitis, metaplasia, and neoplasia)<sup>26,33</sup>; **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** 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), upper extremity** may not be considered appropriate if **ANY** of the following is **TRUE**:

- A diagnosis of carpal tunnel syndrome; **OR**
- 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<sup>27</sup>; **OR**

\*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

**Provider-directed home exercise programs (HEP)** should include<sup>28</sup>:

- Patient education of prescribed exercises with written instructions
- Documentation of patient compliance with the HEP

## Disclaimer on Radiation Exposure in Pediatric Population

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.<sup>29-30</sup>

**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.<sup>29-30</sup>

**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.<sup>29-30</sup>

**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.<sup>29-30</sup>

### **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)**

<b>CPT/HCPCS Code</b>	<b>Code Description</b>
73218	Magnetic resonance imaging (MRI) (e.g., proton), upper extremity, other than joint; without contrast material(s)
73219	Magnetic resonance imaging (MRI) (e.g., proton), upper extremity, other than joint; with contrast material(s)
73220	Magnetic resonance imaging (MRI) (e.g., proton), upper extremity, other than joint; without contrast material(s), followed by contrast material(s) and further sequences
73221	Magnetic resonance imaging (MRI) (e.g., proton), any

	joint of upper extremity; without contrast material(s)
73222	Magnetic resonance imaging (MRI) (e.g., proton), any joint of upper extremity; with contrast material(s)
73223	Magnetic resonance imaging (MRI) (e.g., proton), any joint of upper extremity; without contrast material(s), followed by contrast material(s) and further sequences.

## Medical Evidence

DeFrance et al. (2021) performed a study using magnetic resonance imaging (MRI) for diagnosing upper extremity conditions and assessed how MRI findings influenced patient management. Findings from 187 patients who had an MRI were analyzed on the usefulness of imaging and how they influenced treatment decisions. Imaging was ordered to assess for suspected occult scaphoid fractures, ulnar wrist pain, collateral ligament injuries of the metacarpophalangeal joint, and masses. Surgeons concurred with radiologists' interpretations in 88% of cases. Overall, surgeons noted MRI findings as helpful in 92% of cases.<sup>31</sup>

Cortes et al. (2019) conducted a small prospective study on patients with suspected cuff tendinopathy. Fifty-one patients were included and underwent magnetic resonance imaging (MRI). Ninety percent (n=46) did not require surgical intervention; individuals who underwent surgery (10%) within an average of 68.3 days post-imaging. A significant proportion (over 90%) underwent premature MRI, which illustrates early MRI utilization in patients with atraumatic shoulder pain whose condition may have improved with conservative treatment first.<sup>32</sup>

Rubin (2019) analyzed MRI and ultrasound findings of patients with rheumatoid arthritis in the hands and wrists. Advanced imaging modalities allow for visualization of synovitis and active soft-tissue inflammation, which are early indicators of potential structural damage. MRI can also identify osteitis, a crucial prognostic marker for disease aggressiveness. Findings include the distinct definitions (specifically synovitis, osteitis, and erosions) that enhance clinical assessment and imaging interpretation.<sup>33</sup>

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# Clinical Guideline Revision History/Information

Original Date: April 4, 2022		
Review History		
Version 2	8/5/2024	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 avenue for approval of preoperative imaging. Loosened requirement for injury evaluation - no longer requires suspicion of "high-grade" tear.
Version 5	08/14/2025	<p>Annual Review</p> <p>Added definition for provider-directed home exercise programs.</p> <p>Updated conservative care language.</p> <p>Broke out fracture indications and expanded on the related criteria.</p> <p>Added "monitor response to treatment" indications (pages 6 &amp; 7) that correspond to NCCN guidelines.</p> <p>Removed suspected vascular compromise from vascular conditions indication.</p> <p>Added diagnosis of osteoid osteoma to non-indications.</p> <p>Removed relative non-indications.</p>