Cohere Medicare Advantage Policy - Magnetic Resonance Imaging (MRI), Upper Extremity

Clinical Guidelines for Medical Necessity Review

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Important Notices

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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.

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Other Notices:

Guideline Information:

Specialty Area: Diagnostic Imaging
Guideline Name: Cohere Medicare Advantage Policy - Magnetic Resonance Imaging (MRI), Upper Extremity

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Type: [**X**] Adult (18+ yo) | [_] Pediatric (0-17yo)

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Medical Necessity Criteria

Service: Magnetic Resonance Imaging (MRI), Upper Extremity

Benefit Category

Diagnostic Services in Outpatient Hospital
Diagnostic Tests (other)

Please Note: This may not be an exhaustive list of all applicable Medicare benefit categories for this item or service.[1]

Related CMS Documents

Please refer to CMS Medicare Coverage Database for the most current applicable CMS National Coverage.[1]

- National Coverage Determination (NCD). Magnetic resonance imaging (MRI)(220.2)

Recommended Clinical Approach

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. Alternate modalities may sometimes be more clinically appropriate based on clinician and supervising radiologist discussion.[2-3]

Evaluation of Clinical Harms and Benefits

Cohere Health uses the criteria below to ensure consistency in reviewing the conditions to be met for coverage of magnetic resonance imaging (MRI) of the upper extremities. This process helps to prevent both incorrect denials and inappropriate approvals of medically necessary services. Specifically, limiting incorrect approvals reduces the risks associated with unnecessary procedures, such as complications from surgery, infections, and prolonged recovery times.

The potential clinical harms of using these criteria may include:

- There is a risk of malfunction of implanted medical devices (e.g., implanted pacemakers, cochlear implants).
- A potential exists for allergic reactions to contrast material, if used in the study. The MRI department staff will monitor the patient for an allergic reaction and treat as recommended by a physician.[4-5]
- Use of gadolinium-based contrast is not recommended during pregnancy or in patients with acute or chronic kidney injury or disease.[4-5]
- If sedation is used for the study (for anxiety or claustrophobia), there is a risk of over-sedation. The patient will be monitored during the procedure to reduce this risk.
- There is uncertain risk for MR imaging in pregnant patients. The decision to image in a pregnant patient should be made on an individual basis in consultation with the patient's obstetric provider.[6]
- There is a risk of increased healthcare costs and complications from the inappropriate use of additional interventions.[7]
- Increased healthcare costs and complications from the inappropriate use of emergency services and additional treatments.

The clinical benefits of using these criteria include:

- Detailed soft tissue visualization: MRI is valuable for assessing conditions related to the shoulder joint and for surgical planning.[8-9]
- Multiplanar imaging: Allows for a multiplanar approach to visualize the shoulder joint to improve diagnostic accuracy and identify abnormalities that are unlikely to be visible in a single-plane image.[9]
- Detection of conditions: Contrast agents allow for the identification of labral tears, various shoulder pathologies, tumors, lesions, and abnormalities.[8] MRI is also beneficial for locating the origination of cervical spine pain (e.g., inflammatory arthritis).[9]
- Evaluation of thoracic outlet anatomy.[10]
- Enhanced overall patient satisfaction and healthcare experience.

This policy includes provisions for expedited reviews and flexibility in urgent cases to mitigate risks of delayed access. Evidence-based criteria are employed to prevent inappropriate denials, ensuring that patients receive

medically necessary care. The criteria aim to balance the need for effective treatment with the minimization of potential harms, providing numerous clinical benefits in helping avoid unnecessary complications from inappropriate care.

In addition, the use of these criteria is likely to decrease inappropriate denials by creating a consistent set of review criteria, thereby supporting optimal patient outcomes and efficient healthcare utilization.

Medical Necessity Criteria

Indications

- ➔ **Magnetic resonance imaging (MRI), upper extremity** is considered appropriate if **ALL** of the following is **TRUE**:
  - ◆ **ANY** of the following:
    - Plain radiographs are contraindicated or inconclusive; **OR**
    - Ultrasound and CT/CTA are contraindicated or inconclusive (e.g., body habitus for ultrasound, anaphylactic reaction due to IV contrast reaction, pregnancy, pediatric); **AND**
  - ◆ **ANY** of the following is **TRUE**:
    - Trauma-related conditions as indicated by **ANY** of the following[11-12]:
      - Fracture (traumatic or stress), and **ANY** of the following is **TRUE**[13]:
        - ◆ Joint dislocation or instability; **OR**
        - ◆ Stress/insufficiency fracture (known) and follow-up imaging needed; **OR**
        - ◆ Stress/insufficiency fracture (suspected) with negative radiographs; **OR**
      - Soft tissue injury or tear (e.g., tendon, ligament, muscle)[11-15]; **OR**
    - Detection, screening, and surveillance of neoplasms, masses, and cysts of an upper extremity and **ANY** of the following is **TRUE**[5]:
      - Malignant or aggressive primary tumor[16]; **OR**
      - Evaluation of metastatic lesions of the upper extremity; **OR**
      - Bone tumor is suspected with **ANY** of the following[17]:

        - Initial radiographs are negative or do not explain symptoms; **OR**
        - Osteoid osteoma is suspected; **OR**
        - Lesion present on plain radiographs; **OR**
        - Indeterminate or aggressive appearance concerning malignancy; **OR**
        - "Incidental" osseous lesion on other imaging for unrelated indication; **OR**
    - Presence of a mass with **ANY** of the following[3]:
        - Absence of trauma; **OR**
        - Rapid growth; **OR**
        - Recurrence after prior surgery; **OR**
        - Non-diagnostic ultrasound or other inconclusive imaging; **OR**
    - Known malignancy and **ANY** of the following is required:
        - Monitor response to treatment; **OR**
        - Surveillance after treatment or surgery; **OR**
        - Non-diagnostic ultrasound or other inconclusive imaging; **OR**
    - Palpable abnormality with a non-diagnostic radiograph or ultrasound; **OR**
- Infectious disorder including **ANY** of the following:
    - Osteomyelitis, suspected[18]; **OR**
    - Suspected septic arthritis or soft tissue infection is with **ANY** of the following initial radiographs[18-19]:
        - Normal; **OR**
        - Suggestive of joint effusion; **OR**
        - Suggestive of soft tissue swelling; **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) with negative radiographs[20]; **OR**
    - Vascular compromise, suspected[15]; **OR**

    - Vascular malformation (with or without pain) and **ANY** of the following findings of physical deformity are suspected[21]:
        - Diffuse or focal enlargement; **OR**
        - Discoloration; **OR**
        - Soft-tissue mass; **OR**
        - Ulceration; **OR**
    - Vascular bruit or thrill; **OR**
- For evaluation of **ANY** of the following uncategorized/miscellaneous symptoms when applicable:
    - Marrow abnormalities[5,20]; **OR**
    - Pain or weakness of an upper extremity, and **ALL** of the following are **TRUE**[15,22]:
        - Failure of conservative management (e.g., rest, analgesics, physical therapy, oral or injectable corticosteroids) must be documented for a period of greater than 3 months; **AND**
        - Concern for acute rupture or high-grade tear of tendon, ligament, or soft tissue injury based on **ALL** of the following:
            - Clinical history; **AND**
            - Physical exam; **AND**
            - Prior radiographs excluding chronic pain or suspicion of a chronic or low-grade injury; **OR**
    - Neurological symptoms or deficits with **ANY** of the following:
        - 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)[19]; **OR**
    - Synovial-related disorders (e.g., synovitis, bursitis, metaplasia, and neoplasia)[23]; **OR**
- Repeat imaging of a specific area or structure using the same imaging modality (in the absence of an existing follow-up guideline) is considered appropriate when **ALL** of the following is **TRUE**:
    - There is documented clinical necessity; **AND**
    - Prior imaging results of the specific area or structure, obtained using the same imaging modality, must be documented and available for comparison; **AND**
    - **ANY** of the following is **TRUE**:
        - A change in clinical status, such as worsening symptoms or the emergence of new symptoms, that may influence the treatment approach; **OR**
        - The requirement for interval reassessment, which may alter the treatment plan; **OR**
        - One-time follow-up of a prior indeterminate finding to assess for interval change; **OR**
        - The need for re-imaging either before or after performing an invasive procedure.

Non-Indications

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

- If contrast is used, history of anaphylactic allergic reaction to gadolinium contrast media with detailed guidelines for use in patients with renal insufficiency; **OR**
- The patient has metallic clips on vascular aneurysms; **OR**
- Metallic foreign body in orbits/other critical area(s) or within the field of view and obscuring area of concern; **OR**
- Incompatible implanted devices (e.g., pacemakers, defibrillators, cardiac valves, spinal cord stimulators); **OR**
- Imaging of cortical bone and calcifications[1]; **OR**
- Procedures involving spatial resolution of bone and calcifications.[1]

*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.

Level of Care Criteria

Inpatient or Outpatient

Procedure Codes (CPT/HCPCS)

CPT/HCPCS Code	Code Description
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.

Disclaimer: G, S, I, and N Codes are non-covered per CMS guidelines due to their experimental or investigational nature.

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.[24]

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.[25]

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.[26]

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