Cohere Medical Policy - Magnetic Resonance (MR) Elastography

Clinical Policy for Medical Necessity Review

Version: 3
Cohere Health UMC Approval Date: August 28, 2025
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Revision: Not Applicable
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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.

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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.

Policy Information:

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

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Medical Necessity Criteria

Service: Magnetic Resonance (MR) Elastography

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 elastography (MRE) is a noninvasive imaging technique that measures the mechanical properties of tissues, particularly stiffness, which can indicate the presence of fibrosis and other pathologies. This technique is primarily used in the assessment of liver diseases, but it also has applications in diagnosing conditions affecting the brain, muscles, and other organs. MRE provides a quantitative measure of tissue elasticity, which is valuable in evaluating the extent of disease, monitoring disease progression, and guiding treatment decisions.[1]

MRE is a valuable tool in tumor diagnosis by measuring tissue stiffness across various cancers. MRE can detect changes in tissue stiffness before clinical symptoms appear, making it essential for early tumor detection, treatment planning, and assessing resistance to chemoradiotherapy.[2]

Medical Necessity Criteria

Indications

Magnetic resonance elastography (MRE) is considered appropriate if **ANY** of the following is **TRUE**[1-6]:

- The patient has nonalcoholic fatty liver disease (NAFLD), and hepatic fibrosis or cirrhosis is known or suspected; **OR**
- **ALL** of the following are **TRUE**:
  - The patient has a chronic liver disease (e.g., chronic hepatitis C virus infection, chronic hepatitis B virus infection), and hepatic fibrosis or cirrhosis is known or suspected; **AND**
  - Ultrasound elastography cannot be performed or is nondiagnostic; **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 elastography (MRE) is not considered appropriate if **ANY** of the following is **TRUE**:

- The patient has undergone advanced imaging of the same body part within 3 months without undergoing treatment or developing new or worsening symptoms[7].

*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
76391	Magnetic resonance (e.g., vibration) elastography

Medical Evidence

Feuille et al. (2024) analyzed clinical situations where magnetic resonance elastography (MRE) of the liver is indicated. A total of 96 MRE exams and respective follow-ups were included over 14 months. The primary indication for all MREs was noninvasive assessment of liver fibrosis with one additional indication identified in every case. Liver biopsy decreased after MRE. However, when liver biopsy was indicated, the patient was very likely to undergo the procedure. MRE is a safe alternative for patients, although rare but serious risks may occur.[3]

Venkatesh et al. (2013) review the utilization of magnetic resonance elastography (MRE) of the liver. While adequate to detect and stage liver fibrosis, the authors note that future research is needed to improve three-dimensional imaging quality and resolution to aid in characterizing liver lesions and fibrosis. MRE also shows promise for evaluating patient response to antifibrotic treatments.[1]

In a review of the clinical utility of MRE in assessing liver fibrosis, Moura Cunha et al. note that the diagnostic performance of MRE for advanced (≥F3) fibrosis is excellent, with most studies reporting greater than 80% sensitivity and greater than 90% specificity.[2]

In a large meta-analysis by Singh et al. that includes 12 studies and 697 individual patients with different chronic liver diseases from Europe and the United States, the area under the receiver operating characteristic curve values for discriminating any (≥F1), significant (≥F2), or advanced fibrosis (≥F3) or cirrhosis (≥F4) were 0.84, 0.88, 0.93, and 0.92, respectively.[4]

References

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Policy Revision History/Information

Original Date: August 13, 2024		
Review History		
Version 2	10/30/2024	Edited repeat imaging criteria language.
Version 3	08/28/2025	Annual review Updated content layout to align with revised template, including repeat imaging criteria Revised medical evidence summaries for clarity Removed CPT code 75565