



# **Cohere Medical Policy – Magnetic Resonance Imaging (MRI), Temporomandibular Joint (TMJ)**

*Clinical Guidelines for Medical Necessity Review*

**Version:** 2  
**Effective Date:** August 5, 2024

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## Guideline Information:

**Specialty Area:** Diagnostic Imaging

**Guideline Name:** Cohere Medical Policy - Magnetic Resonance Imaging (MRI), Temporomandibular Joint (TMJ)

**Date of last literature review:** 8/4/2024

**Document last updated:** 8/5/2024

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

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# Medical Necessity Criteria

**Service: Magnetic Resonance Imaging (MRI), Temporomandibular Joint (TMJ)**

## Recommended Clinical Approach

Magnetic resonance imaging (MRI) of the temporomandibular joint (TMJ) is a non-invasive diagnostic tool that provides detailed images of the soft tissues and hard structures within the joint. It is highly effective in diagnosing internal derangements, such as disc displacement, inflammation, and degenerative changes. MRI can assess the position and condition of the articular disc, joint effusion, bone marrow edema, and other soft tissue abnormalities. Its superior contrast resolution makes it the gold standard for evaluating TMJ disorders, guiding treatment decisions, and monitoring the efficacy of interventions, particularly in complex cases requiring precise anatomical details.

## Medical Necessity Criteria

### Indications

→ **Magnetic resonance imaging (MRI), temporomandibular joint (TMJ)** is considered appropriate if **ANY** of the following is **TRUE**<sup>1-2</sup>:

- ◆ Suspected TMJ disorder and **ALL** of the following is **TRUE**:
  - Failure of conservative management (e.g., rest, analgesics, soft diet, oral appliances) must be documented for a period of greater than 6 weeks; **AND**
  - The patient has **ANY** of the following from the clinical presentation and typical physical exam findings lists<sup>3</sup>:
    - Clicking sounds in the jaw joint when opening or closing the mouth; **OR**
    - Difficulty chewing; **OR**
    - Ear pain in front of or below the ear without any signs of infection; **OR**
    - Headaches exacerbated by jaw movement; **OR**
    - Irregular jaw movement with difficulty opening or closing the mouth; **OR**
    - Jaw pain or toothache when waking up after sleep; **OR**

- Pain in the ear area when speaking, chewing, or opening the mouth widely; **OR**
- Pain in the jaw joint area, tooth, neck, and shoulders; **OR**
- Sensation of teeth not aligning properly; **OR**
- ◆ Assessment of known TMJ disorder after treatment; **OR**
- ◆ Assessment of known TMJ disorder with new, worsening, or persistent symptoms; **OR**
- ◆ Imaging needed before TMJ surgery; **OR**
- ◆ Inflammatory arthropathy and **ALL** of the following is **TRUE**<sup>2</sup>:
  - Failure of conservative management of suspected TMJ disorder (e.g., rest, analgesics, physical therapy, oral or injectable corticosteroids) must be documented for a period of greater than 6 weeks. Documentation should include detailed evidence of the measures taken, rather than solely a physician’s statement; **AND**
  - **ANY** of the following:
    - Ankylosing spondylitis; **OR**
    - Psoriatic arthritis; **OR**
    - Rheumatoid arthritis<sup>4</sup>; **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), temporomandibular joint (TMJ)**

is not considered appropriate if **ANY** of the following is **TRUE**:

- ◆ The patient has undergone advanced imaging of the same body part and for the same indication within 3 months, without being on treatment; **OR**
- ◆ 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**
- ◆ Incompatible implantable devices (e.g., pacemakers, defibrillators, cardiac valves); **OR**
- ◆ Metallic foreign body in orbits/other critical area(s) or within the field of view and obscuring area of concern.

\*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

Outpatient

## Procedure Codes (CPT/HCPCS)

CPT/HCPCS Code	Code Description
70336	Magnetic resonance imaging (MRI) (e.g., proton); temporomandibular joint (TMJ)

## Medical Evidence

Kopp et al. (2024) conducted a prospective study to compare the image quality between 0.55 Tesla magnetic resonance imaging (MRI) and the standard 1.5 Tesla MRI for the assessment of temporomandibular disorders (TMDs). The disorders are often associated with enduring functional impairments and discomfort. The study included 17 patients (34 temporomandibular joints [TMJs]) with suspected intra-articular TMDs. Patients underwent 0.55 Tesla and 1.5 Tesla MRI scans on the same day. MRI is the standard imaging modality for assessing TMDs and provides detailed visualization of disc pathologies and structural changes within the joint. While advancements in MRI technology have focused on enhancing magnetic field strength to achieve higher spatial resolution, these high-field MRI systems necessitate extensive cooling systems, consume substantial energy, and incur significant maintenance expenses, limiting their accessibility in rural areas worldwide. Modern low-field MRI systems are a promising alternative due to their reduced energy requirements and lower maintenance costs. Additional research is needed concerning the suitability of contemporary low-field MRI for TMD evaluation.<sup>5</sup>

Gharavi et al. (2022) reviewed imaging techniques of the TMJ. Chronic TMJ pain affects 5–31% of individuals, with approximately 4% experiencing new onset pain annually. Disorders of the TMJ encompass a range of conditions affecting the TMJ and surrounding structures, ranking as the second most prevalent musculoskeletal ailment, following back pain. While internal derangement stands as the most prevalent TMJ pathology, other less common conditions include conditions such as inflammatory arthritis, infections, trauma, and neoplasms. MRI is the primary modality to assess intra-articular conditions due to the exceptional contrast resolution in soft tissues. Contrast-enhanced MRI and CT scans are used in the assessment of arthritis that affects the TMJ as it offers comprehensive visualization of both acute inflammatory changes and subsequent degenerative arthritis.<sup>2</sup>

Hegab et al. (2021) performed a prospective clinical study on a new classification system for TMJ internal derangement based on MRI and clinical findings to aid nonsurgical treatment. The study involved 435 patients and 747 joints and measured outcomes like maximum mouth opening, pain (via

visual analog scale), and joint sound. Results showed significant improvements in mouth opening, pain reduction, and reduced joint sounds over 12 months. The new classification system is comprehensive, and the nonsurgical treatment protocol is practical and tailored to joint pathology.<sup>6</sup>

## References

1. American College of Radiology (ACR), American Society of Neuroradiology (ASNR), Society of Pediatric Radiology (SPR). ACR-ASNR-SPR practice parameter for the performance of magnetic resonance imaging (MRI) of the head and neck - resolution 7. Updated 2023. Accessed July 11, 2024. <https://www.acr.org/-/media/ACR/Files/Practice-Parameters/MR-Head-Neck.pdf>.
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5. Kopp M, Wiesmueller M, Buchbender N, et al.. MRI of temporomandibular joint disorders: A comparative study of 0.55 T and 1.5 T MRI. *Investigative Radiology*. 2024 Mar;59(3):223-229. doi: 10.1097/RLI.0000000000001008.
6. Hegab AF, Al Hameed HI, Karam KS. Classification of temporomandibular joint internal derangement based on magnetic resonance imaging and clinical findings of 435 patients contributing to a nonsurgical treatment protocol. *Sci Rep*. 2021 Oct 22;11(1):20917. doi: 10.1038/s41598-021-00456-7. PMID: 34686740; PMCID: PMC8536688.

# Clinical Guideline Revision History/Information

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Review History		
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