

## MEDICAL POLICY – 2.01.535


## Temporomandibular Joint Disorder

BCBSA Ref. Policy: 2.01.21, 5.01.05

Effective Date:	May 1, 2024	RELATED MEDICAL POLICIES: 2.01.26	Prolotherapy
Last Revised:	April 8, 2024	2.01.31	Intra-Articular Hyaluronan Injections for Osteoarthritis
Replaces:	2.01.21	5.01.512	Botulinum Toxins
		7.01.588	Percutaneous Electrical Nerve Stimulation and Percutaneous Neuromodulation Therapy
		9.02.501	Orthognathic Surgery

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## Introduction

The temporomandibular joint (TMJ) is the joint where the jawbone connects to the skull. There is one joint on each side of the jaw. The areas of the bones forming the joint are covered with cartilage and separated by a small disk. This disk helps keep joint movement smooth. Sometimes the disc erodes or moves out of its proper position. Arthritis may develop in the joint and damage the cartilage, or an injury can damage the joint. Regardless of the cause, TMJ disorders (TMJD) can result in pain and affect the function of the joint and the muscles that control jaw movement. TMJDs may go away without treatment, or pain relievers can be used to alleviate symptoms. This policy describes the services that the health plan covers (considers medically necessary) to diagnose and treat TMJ symptoms and disorders. On some plans, services to treat TMJ problems are limited to a specific benefit which may have a dollar limit.

**Note:** The Introduction section is for your general knowledge and is not to be taken as policy coverage criteria. The rest of the policy uses specific words and concepts familiar to medical professionals. It is intended for providers. A provider can be a person, such as a doctor, nurse, psychologist, or dentist. A provider also can be a place where medical care is given, like a hospital, clinic, or lab. This policy informs them about when a service may be covered.

## Policy Coverage Criteria

**Note:** Some health plan contracts may not have benefits to cover treatment of temporomandibular joint disorder. Refer to member contract language for benefit determination.

Treatment	Medical Necessity
<b>Diagnostic procedures</b>	<p><b>The following diagnostic procedures may be considered medically necessary in the diagnosis of temporomandibular joint disorder (TMJD):</b></p> <ul style="list-style-type: none"> <li>• Diagnostic x-ray, tomograms, and arthrograms</li> <li>• Computed tomography (CT) scan or magnetic resonance imaging (MRI) (in general, CT scans and MRIs are reserved for presurgical evaluations)</li> <li>• Cephalograms (x-rays of jaws and skull)</li> <li>• Pantograms (x-rays of maxilla and mandible)</li> </ul> <p><b>Note:</b> Cephalograms and pantograms should be reviewed on an individual basis.</p>
<b>Surgical treatments</b>	<p><b>The following surgical treatments may be considered medically necessary in the treatment of TMJD:</b></p> <ul style="list-style-type: none"> <li>• Arthrocentesis</li> <li>• Manipulation for reduction of fracture or dislocation of the TMJ</li> <li>• Arthroscopic surgery in individuals with objectively demonstrated (by physical examination or imaging) internal derangements (displaced discs) or degenerative joint disease who have failed conservative treatment</li> <li>• Open surgical procedures (when TMJD results from congenital anomalies, trauma, or disease in individuals who have failed conservative treatment) including, but not limited to:               <ul style="list-style-type: none"> <li>○ Arthroplasties</li> <li>○ Condylectomies</li> <li>○ Meniscus or disc plication</li> <li>○ Disc removal</li> </ul> </li> </ul>
<b>Nonsurgical treatments</b>	<p><b>The following nonsurgical treatments may be considered medically necessary in the treatment of TMJD:</b></p>



Treatment	Medical Necessity
	<ul style="list-style-type: none"> <li>• One intraoral removable prosthetic device or appliance (encompassing fabrication, insertion, adjustment)</li> <li>• Pharmacologic treatment (e.g., anti-inflammatory, muscle relaxing, analgesic medications)</li> <li>• Physical therapy* (e.g., CPT 97530, 97014)</li> <li>• Trigger point injections</li> </ul> <p>*Note: These services process to the Temporomandibular Joint (TMJ) Disorder benefit when the member has this benefit.</p>
<b>Two-piece oral appliance</b>	<b>A two-piece intraoral prosthetic device or appliance is considered not medically necessary.</b>

Treatment	Investigational
<b>Diagnostic procedures</b>	<p><b>The following diagnostic procedures are considered investigational in the diagnosis of TMJD:</b></p> <ul style="list-style-type: none"> <li>• Arthroscopy of the TMJ for purely diagnostic purposes</li> <li>• Computerized mandibular scan (measures and records muscle activity related to movement and positioning of the mandible and is intended to detect deviations in occlusion and muscle spasms related to TMJD)</li> <li>• Electromyography (EMG), including surface EMG</li> <li>• Joint vibration analysis</li> <li>• Kinesiography</li> <li>• Muscle testing</li> <li>• Neuromuscular junction testing</li> <li>• Range-of-motion measurements</li> <li>• Somatosensory testing</li> <li>• Standard dental radiographic procedures</li> <li>• Thermography</li> <li>• Transcranial or lateral skull x-rays; intraoral tracing or gnathic arch tracing (intended to demonstrate deviations in the positioning of the jaw that are associated with TMJD)</li> <li>• Ultrasound imaging/sonogram</li> </ul>
<b>Nonsurgical treatments</b>	<b>The following nonsurgical treatments are considered investigational in the treatment of TMJD:</b>



Treatment	Investigational
	<ul style="list-style-type: none"> <li>• Biofeedback</li> <li>• Botulinum toxin A</li> <li>• Dental restorations/prostheses</li> <li>• Devices promoted to maintain joint range of motion and to develop muscles involved in jaw function</li> <li>• Dextrose prolotherapy</li> <li>• Electrogalvanic stimulation</li> <li>• Hyaluronic acid</li> <li>• Iontophoresis</li> <li>• Orthodontic services</li> <li>• Percutaneous electrical nerve stimulation (PENS)</li> <li>• Platelet concentrates (e.g., platelet rich plasma)</li> <li>• Transcutaneous electrical nerve stimulation (TENS) (e.g., HCPCS E0720)</li> <li>• Ultrasound</li> </ul>

**Documentation Requirements**

**Submit chart notes including type of appliance and history of re-occurring TMJ disorder.**

**Coding**

Code	Description
<b>CPT</b>	
20605	Arthrocentesis, aspiration and/or injection; intermediate joint or bursa (e.g., temporomandibular, acromioclavicular, wrist, elbow or ankle, olecranon bursa)
20606	Arthrocentesis, aspiration and/or injection, intermediate joint or bursa (e.g., temporomandibular, acromioclavicular, wrist, elbow or ankle, olecranon bursa); with ultrasound guidance, with permanent recording and reporting
21010	Arthrotomy, temporomandibular joint
21050	Condylectomy, temporomandibular joint
21060	Meniscectomy, partial/complete, temporomandibular joint (separate procedure)



Code	Description
21073	Manipulation of temporomandibular joint(s) (TMJ), therapeutic, requiring an anesthesia service (i.e., general or monitored anesthesia care)
21085	Impression and custom preparation; oral surgical splint
21089	Unlisted maxillofacial prosthetic procedure
21116	Injection procedure for temporomandibular joint arthrography
21240	Arthroplasty, temporomandibular joint, with or without autograft (includes obtaining graft)
21242	Arthroplasty, temporomandibular joint, with allograft
21243	Arthroplasty, temporomandibular joint, with prosthetic joint replacement
21480	Closed treatment of temporomandibular dislocation; initial or subsequent
21485	Closed treatment of temporomandibular dislocation; complicated (e.g., recurrent requiring intermaxillary fixation or splinting), initial or subsequent
21490	Open treatment of temporomandibular dislocation
29800	Arthroscopy, temporomandibular joint, diagnostic, with or without synovial biopsy (separate procedure)
29804	Arthroscopy, temporomandibular joint, surgical
70328	Radiologic exam, temporomandibular joint, open and closed mouth; unilateral
70330	Radiologic examination, temporomandibular joint, open and closed mouth; bilateral
70332	Temporomandibular joint arthrography, radiological supervision and interpretation
70350	Cephalogram, orthodontic
70355	Orthopantomogram (e.g., panoramic x-ray)
<b>HCPCS</b>	
J0585	Injection, onabotulinumtoxinA, (Botox) 1 unit
J0586	Injection, abobotulinumtoxinA, (Dysport) 5 units
J0587	Injection, rimabotulinumtoxinB, (Myobloc) 100 units
J0588	Injection, incobotulinumtoxinA, (Xeomin) 1 unit
J7321	Hyaluronan or derivative, Hyalgan or Supartz, for intra-articular injection, per dose
J7323	Hyaluronan or derivative, Euflexxa, for intra-articular injection, per dose
J7324	Hyaluronan or derivative, Orthovisc, for intra-articular injection, per dose



Code	Description
J7325	Hyaluronan or derivative, Synvisc or Synvisc-One, for intra-articular injection, 1 mg
J7326	Hyaluronan or derivative, Gel-One, for intra-articular injection, per dose
J7327	Hyaluronan or derivative, Monovisc, for intra-articular injection, per dose
J7328	Hyaluronan or derivative, GELSYN-3, for intra-articular injection, 0.1 mg
J7329	Hyaluronan or derivative, Trivisc, for intra-articular injection, 1 mg
J7331	Hyaluronan or derivative, SYNOJOYNT, for intra-articular injection, 1 mg
J7332	Hyaluronan or derivative, Triluron, for intra-articular injection, 1 mg
S3900	Surface electromyography (EMG)
CDT	
D7880	Occlusal orthotic device, by report
D7881	Occlusal orthotic device adjustment
D7899	Unspecified TMD therapy, by report
D7999	Unspecified oral surgery procedure, by report

**Note:** CPT codes, descriptions and materials are copyrighted by the American Medical Association (AMA). HCPCS codes, descriptions and materials are copyrighted by Centers for Medicare Services (CMS). CDT codes, descriptions and materials are copyrighted by the American Dental Association (ADA).

## Related Information

N/A

## Evidence Review

### Description

Temporomandibular joint disorder (TMJD) refers to a group of disorders characterized by pain in the temporomandibular joint and surrounding tissues. Initial conservative therapy is generally



recommended; there are also a variety of nonsurgical and surgical treatment possibilities for individuals whose symptoms persist.

## Background

### Diagnosis of Temporomandibular Joint Disorder

In the clinical setting, temporomandibular joint disorder (TMJD) is often a diagnosis of exclusion and involves physical examination, patient interview, and a review of dental records. Diagnostic testing and radiologic imaging are generally only recommended for individuals with severe and chronic symptoms. Diagnostic criteria for TMJD have been developed and validated for use in both clinical and research settings.<sup>1,2,3</sup>

Symptoms attributed to TMJD vary and include, but are not limited to, clicking sounds in the jaw; headaches; closing or locking of the jaw due to muscle spasms (trismus) or displaced disc; pain in the ears, neck, arms, and spine; tinnitus; and bruxism (clenching or grinding of the teeth).

## Treatment

For many individuals, symptoms of TMJD are short-term and self-limiting. Conservative treatments, (e.g., eating soft foods, rest, heat, ice, avoiding extreme jaw movements) and anti-inflammatory medication, are recommended before considering more invasive and/or permanent therapies (e.g., surgery).

### Botulinum Toxin

Chen et al (2015) summarized the evidence assessing the efficacy of botulinum toxin A for treatment of temporomandibular joint disorders in a systematic review that included five randomized controlled trials (RCTs).<sup>55</sup> Sample size in all trials was 30 or less except for one. Three of the five studies were judged to be at high-risk of bias. All studies administered a single injection of onabotulinumtoxinA or abobotulinumtoxinA and followed up on the individuals at least one month later. Four studies used a placebo (normal saline) control group and the fifth compared abobotulinumtoxinA to fascial manipulation. Data were not pooled due to heterogeneity among the trials. In a qualitative review of the studies, two of the five trials found a significant short-term (1-2 months) benefit of onabotulinumtoxinA compared with control on pain reduction.



## Summary of Evidence

For individuals with suspected TMJD who receive ultrasound, surface electromyography, or joint vibration analysis, the evidence includes systematic reviews of diagnostic test studies. Relevant outcomes are test validity, and other performance measures. None of the systematic reviews found that these diagnostic techniques accurately identified individuals with TMJD and many of the studies had methodologic limitations. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with a confirmed diagnosis of TMJD who receive intraoral devices or appliances or pharmacologic treatment, the evidence includes randomized controlled trials (RCTs) and systematic reviews of the RCTs. Relevant outcomes are symptoms, functional outcomes, quality of life, and treatment-related morbidity. A systematic review of intraoral appliances (44 studies) and meta-analyses of subsets of these studies found a significant benefit of intraoral appliances compared with control interventions. Several studies, meta-analyses, and systematic reviews exploring the effectiveness of stabilization splints on TMJD pain revealed conflicting results. Overall, the evidence shows that stabilizing splints may improve pain and positively impact depressive and anxiety symptoms. The evidence related to pharmacologic treatment varies because studies, systematic reviews, and meta-analyses lack consistency in evaluating specific agents. Some systematic reviews have found a significant benefit of several pharmacologic treatments (e.g., analgesics, muscle relaxants, and anti-inflammatory medications [vs. placebo]), but other studies showed a lack of benefit with agents such as methylprednisolone and botulinum toxin type A. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with a confirmed diagnosis of TMJD who receive acupuncture, biofeedback, transcutaneous electrical nerve stimulation (TENS), orthodontic services, hyaluronic acid, platelet concentrates, or dextrose prolotherapy, the evidence includes RCTs, systematic reviews of these RCTs, and observational studies. Relevant outcomes are symptoms, functional outcomes, quality of life, and treatment-related morbidity. Systematic reviews evaluating acupuncture for TMJD have found inconsistent improvement in outcomes compared with sham or active controls. A 2023 meta-analysis of 22 RCTs failed to find improved pain or maximum mouth opening with acupuncture compared with active controls. Systematic reviews evaluating hyaluronic acid have found similar outcomes to corticosteroids or placebo. Platelet-rich plasma has been compared with hyaluronic acid in a number of systematic reviews and RCTs, but the studies are small and have methodologic limitations. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.





For individuals with a confirmed diagnosis of TMJD, who receive arthrocentesis or arthroscopy, the evidence includes RCTs, systematic reviews of the RCTs, and observational studies. Relevant outcomes are symptoms, functional outcomes, quality of life, and treatment-related morbidity. One review, which included three RCTs, compared arthrocentesis or arthroscopy with nonsurgical interventions for TMJD. Pooled analyses of the RCTs found that arthrocentesis and arthroscopy resulted in superior pain reduction compared with control interventions. A network meta-analysis, which included 36 RCTs, revealed that arthroscopy and arthrocentesis improve pain control and maximum mouth opening. Two recent meta-analyses identified RCTs comparing arthrocentesis to various conservative management strategies. At 6 months, one analysis found improved maximum mouth opening with arthrocentesis while the other found similar outcomes between arthrocentesis and conservative treatments. Similarly, pain was improved with arthrocentesis in one analysis, but not the other. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who receive botulinum toxin injections for treatment of temporomandibular joint disorders, the evidence includes case series and RCTs. The relevant outcomes are symptoms, functional outcomes, medication use, and treatment-related morbidity. Generally, botulinum toxin has been evaluated in clinical settings where individuals have failed the standard of care or in whom standard of care interventions are contraindicated. However, studies using a placebo comparator that lack scientific rigor do not permit conclusions about the net health benefit of botulinum toxin. Future studies in this clinical indication should use appropriate comparators in adequately powered prospective studies using a standardized treatment dose and adequate follow-up. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

## Ongoing and Unpublished Clinical Trials

Some currently ongoing and unpublished trials that might influence this review are listed in [Table 1](#).

**Table 1. Summary of Key Trials**

NCT No.	Trial Name	Planned Enrollment	Completion Date
Ongoing			



NCT No.	Trial Name	Planned Enrollment	Completion Date
<a href="#">NCT05989217</a>	Conservative Therapies in the Treatment of Temporomandibular Disorders: a Randomized Controlled Clinical Trial	96	Sep 2024
<a href="#">NCT04936945</a>	Comparative Study Between the Outcome of Intra-articular Injection of Platelet Rich Plasma Versus Hyaluronic Acid in Arthroscopic Management of Temporomandibular Degenerative Joint Diseases: A Randomized Clinical Trial	20	Jun 2023
<a href="#">NCT04884763<sup>a</sup></a>	A Randomized, Double Blind, Placebo-Controlled Single Center Phase 2 Pilot Study to Assess the Safety and Efficacy of Off-label Subcutaneous Administration of Erenumab-aooe in Patients With Temporomandibular Disorder	30	Jan 2024
<a href="#">NCT04726683</a>	Trigger Point Dry Needling vs Injection in Patients With Temporomandibular Disorders: a Randomized Placebo-controlled Trial	64	Dec 2024
<b>Unpublished</b>			
<a href="#">NCT04298554</a>	Comparison of Cannabinoids to Placebo in Management of Arthralgia and Myofascial Pain Disorder of the Temporomandibular Region: A Randomized Clinical Trial.	59	May 2022
<a href="#">NCT05027243</a>	Outcomes of Bilateral Temporomandibular Joint Arthroscopy and the Role of a Second Intervention - Timings and Results	46	July 2021

NCT: national clinical trial. <sup>a</sup>Denotes industry sponsored or co-sponsored trial

## Practice Guidelines and Position Statements

The purpose of the following information is to provide reference material. Inclusion does not imply endorsement or alignment with the policy conclusions.

Guidelines or position statements will be considered for inclusion if they were issued by, or jointly by, a US professional society, an international society with US representation, or National Institute for Health and Care Excellence (NICE). Priority will be given to guidelines that are informed by a systematic review, include strength of evidence ratings, and include a description of management of conflict of interest.



## American Association for Dental, Oral and Craniofacial Research

In 2010 (reaffirmed in 2015), the American Association for Dental Research (now the American Association for Dental, Oral, and Craniofacial Research) policy statement recommended the following for the diagnosis and treatment of temporomandibular joint disorders (TMJDs)<sup>52</sup>:

It is recommended that the differential diagnosis of TMDs [temporomandibular disorders] or related orofacial pain conditions should be based primarily on information obtained from the patient's history, clinical examination, and when indicated, TMJ [temporomandibular joint] radiology or other imaging procedures. The choice of adjunctive diagnostic procedures should be based upon published, peer-reviewed data showing diagnostic efficacy and safety. However, the consensus of recent scientific literature about currently available technological diagnostic devices for TMDs is that except for various imaging modalities, none of them shows the sensitivity and specificity required to separate normal subjects from TMD patients or to distinguish among TMD subgroups...

It is strongly recommended that, unless there are specific and justifiable indications to the contrary, treatment of TMD individuals initially should be based on the use of conservative, reversible and evidence-based therapeutic modalities. Studies of the natural history of many TMDs suggest that they tend to improve or resolve over time. While no specific therapies have been proven to be uniformly effective, many of the conservative modalities have proven to be at least as effective in providing symptomatic relief as most forms of invasive treatment...

## American Society of Temporomandibular Joint Surgeons

In 2001, the American Society of Temporomandibular Joint Surgeons issued consensus clinical guidelines focused on TMJDs associated with internal derangement and osteoarthritis.<sup>53</sup> For diagnosis of this type of TMJD, a detailed history and, when indicated, a general physical examination was recommended. Imaging of the temporomandibular and associated structures was also recommended. Options for basic radiography to provide information on temporal bone and condylar morphology included the use of plain films, panoramic films, and tomograms. Also recommended was imaging of the disc and associated soft tissue with magnetic resonance imaging (MRI) or arthrography. Other diagnostic procedures indicated included computed tomography, MRI, arthrography (for selected cases) and isotope bone scans.

Nonsurgical treatment was recommended as first-line therapy for all symptomatic patients with this condition. Recommended treatment options include a change in diet, nonsteroidal anti-



inflammatory drugs, maxillomandibular appliances, physical therapy, injections of corticosteroids or botulinum toxin, and behavior modification. If adequate symptom relief did not occur within two to three weeks, surgical consultation was advised. The guideline stated the following surgical procedures were considered accepted and effective for individuals with TMJDs associated with internal derangement or osteoarthritis:

- Arthrocentesis
- Arthroscopy
- Condylotomy
- Arthrotomy (prosthetic joint replacement may be indicated in selected individuals who have severe joint degeneration, destruction, or ankylosis)
- Coronoidotomy/coronoidectomy
- Styloidectomy

## **BMJ Rapid Recommendations**

The BMJ Rapid Recommendations panel developed guidelines for the management of patients with chronic pain ( $\geq 3$  months) associated with TMJD.<sup>54</sup> The international expert panel included representation from an academic center in the United States.

The panel favored the following therapies:

- Cognitive behavior therapy (strong recommendation)
- Therapist-assisted mobilization (strong recommendation)
- Manual trigger point therapy (strong recommendation)
- Supervised postural or jaw exercise (strong recommendation)
- Usual care including home exercises, stretching, reassurance, and education (strong recommendation)
- Manipulation (conditional recommendation)
- Supervised jaw exercise with mobilization (conditional recommendation)



- Cognitive behavior therapy with non-steroidal anti-inflammatory drugs (conditional recommendation)
- Manipulation with postural exercise (conditional recommendation)
- Acupuncture (conditional recommendation)

The panel recommended against the following therapies:

- Reversible occlusal splints (conditional recommendation)
- Arthrocentesis (conditional recommendation)
- Cartilage supplement with or without hyaluronic acid injection (conditional recommendation)
- Low level laser therapy (conditional recommendation)
- Transcutaneous electrical nerve stimulation (conditional recommendation)
- Gabapentin (conditional recommendation)
- Botulinum toxin (conditional recommendation)
- Hyaluronic acid (conditional recommendation)
- Relaxation therapy (conditional recommendation)
- Trigger point injection (conditional recommendation)
- Acetaminophen (conditional recommendation)
- Topical capsaicin (conditional recommendation)
- Biofeedback (conditional recommendation)
- Corticosteroid injection (conditional recommendation)
- Benzodiazepines (conditional recommendation)
- Beta-blockers (conditional recommendation)
- Irreversible oral splints (strong recommendation)
- Discectomy (strong recommendation)



- Non-steroidal anti-inflammatory drugs with opioids (strong recommendation)

## Medicare National Coverage

There is no national coverage determination.

## Regulatory Status

Since 1981, several muscle-monitoring devices have been cleared for marketing by the US Food and Drug Administration (FDA) through the 510(k) process. Some examples are:

- The BioEMG III (Bio-Research Associates)
- The GrindCare Measure (Medotech A/S)
- The K7x Evaluation System (Myotronics)
- M-Scan (Bio-Research Associates)

These devices aid clinicians in the analysis of joint sound, vibrations, and muscle contractions when diagnosing and evaluating TMJD.

FDA Product Code: KZM.

**Table 2. Muscle-Monitoring Devices Cleared by the US Food and Drug Administration**

Devices	Manufacturer	Date Cleared	510(k) No.	Indication
K7x Evaluation System	Myotronics, Inc	Nov 2000	K003287	Electromyography
BioEMG IIITM	Bio-Research Associates, Inc	Feb 2009	K082927	Electromyography, Joint Vibration Recording
GrindCare Measure	Medotech A/S	Apr 2012	K113677	Electromyography, Nocturnal Bruxism
M-Scan	Bio-Research Associates	Jul 2013	K130158	Electromyography



Devices	Manufacturer	Date Cleared	510(k) No.	Indication
TEETHAN 2.0	BTS S.P.A.	Dec 2016	K161716	Electromyography
GrindCare System	Sunstar Suisse S.A.	Sep 2017	K163448	Electromyography, Sleep Bruxism
Nox Sleep System	Nox Medical	Nov 2019	K192469	Electromyography, Sleep Bruxism

FDA product code: KZM

## References

1. Schiffman E, Ohrbach R, Truelove E, et al. Diagnostic Criteria for Temporomandibular Disorders (DC/TMD) for Clinical and Research Applications: recommendations of the International RDC/TMD Consortium Network\* and Orofacial Pain Special Interest Group†. *J Oral Facial Pain Headache*. 2014; 28(1): 6-27. PMID 24482784
2. Ohrbach R, Turner JA, Sherman JJ, et al. The Research Diagnostic Criteria for Temporomandibular Disorders. IV: evaluation of psychometric properties of the Axis II measures. *J Orofac Pain*. 2010; 24(1): 48-62. PMID 20213031
3. Schiffman E, Ohrbach R. Executive summary of the Diagnostic Criteria for Temporomandibular Disorders for clinical and research applications. *J Am Dent Assoc*. Jun 2016; 147(6): 438-45. PMID 26922248
4. Almeida FT, Pacheco-Pereira C, Flores-Mir C, et al. Diagnostic ultrasound assessment of temporomandibular joints: a systematic review and meta-analysis. *Dentomaxillofac Radiol*. Feb 2019; 48(2): 20180144. PMID 30285469
5. Manfredini D, Guarda-Nardini L. Ultrasonography of the temporomandibular joint: a literature review. *Int J Oral Maxillofac Surg*. Dec 2009; 38(12): 1229-36. PMID 19700262
6. Klasser GD, Okeson JP. The clinical usefulness of surface electromyography in the diagnosis and treatment of temporomandibular disorders. *J Am Dent Assoc*. Jun 2006; 137(6): 763-71. PMID 16803805
7. Sharma S, Crow HC, McCall WD, et al. Systematic review of reliability and diagnostic validity of joint vibration analysis for diagnosis of temporomandibular disorders. *J Orofac Pain*. 2013; 27(1): 51-60. PMID 23424720
8. List T, Axelsson S. Management of TMD: evidence from systematic reviews and meta-analyses. *J Oral Rehabil*. May 2010; 37(6): 430-51. PMID 20438615
9. Yao L, Sadeghirad B, Li M, et al. Management of chronic pain secondary to temporomandibular disorders: a systematic review and network meta-analysis of randomised trials. *BMJ*. Dec 15 2023; 383: e076226. PMID 38101924
10. Friction J, Look JO, Wright E, et al. Systematic review and meta-analysis of randomized controlled trials evaluating intraoral orthopedic appliances for temporomandibular disorders. *J Orofac Pain*. 2010; 24(3): 237-54. PMID 20664825
11. Ivorra-Carbonell L, Montiel-Company JM, Almerich-Silla JM, et al. Impact of functional mandibular advancement appliances on the temporomandibular joint - a systematic review. *Med Oral Patol Oral Cir Bucal*. Sep 01 2016; 21(5): e565-72. PMID 27475694
12. Randhawa K, Bohay R, Côté P, et al. The Effectiveness of Noninvasive Interventions for Temporomandibular Disorders: A Systematic Review by the Ontario Protocol for Traffic Injury Management (OPTIMa) Collaboration. *Clin J Pain*. Mar 2016; 32(3): 260-78. PMID 25924094
13. Ebrahim S, Montoya L, Busse JW, et al. The effectiveness of splint therapy in patients with temporomandibular disorders: a systematic review and meta-analysis. *J Am Dent Assoc*. Aug 2012; 143(8): 847-57. PMID 22855899



14. Zhang C, Wu JY, Deng DL, et al. Efficacy of splint therapy for the management of temporomandibular disorders: a meta-analysis. *Oncotarget*. Dec 20 2016; 7(51): 84043-84053. PMID 27823980
15. Riley P, Glenny AM, Worthington HV, et al. Oral splints for temporomandibular disorder or bruxism: a systematic review. *Br Dent J*. Feb 2020; 228(3): 191-197. PMID 32060462
16. Al-Moraissi EA, Farea R, Qasem KA, et al. Effectiveness of occlusal splint therapy in the management of temporomandibular disorders: network meta-analysis of randomized controlled trials. *Int J Oral Maxillofac Surg*. Aug 2020; 49(8): 1042-1056. PMID 31982236
17. Zhang L, Xu L, Wu D, et al. Effectiveness of exercise therapy versus occlusal splint therapy for the treatment of painful temporomandibular disorders: a systematic review and meta-analysis. *Ann Palliat Med*. Jun 2021; 10(6): 6122-6132. PMID 33977737
18. Alajbeg IZ, Vrbanović E, Lapić I, et al. Effect of occlusal splint on oxidative stress markers and psychological aspects of chronic temporomandibular pain: a randomized controlled trial. *Sci Rep*. Jul 03 2020; 10(1): 10981. PMID 32620810
19. Melo RA, de Resende CMBM, Rêgo CRF, et al. Conservative therapies to treat pain and anxiety associated with temporomandibular disorders: a randomized clinical trial. *Int Dent J*. Aug 2020; 70(4): 245-253. PMID 32153038
20. Ram HK, Shah DN. Comparative evaluation of occlusal splint therapy and muscle energy technique in the management of temporomandibular disorders: A randomized controlled clinical trial. *J Indian Prosthodont Soc*. 2021; 21(4): 356-365. PMID 34810363
21. Tonlorenzi D, Brunelli M, Conti M, et al. An observational study of the effects of using an high oral splint on pain control. *Arch Ital Biol*. Sep 30 2019; 157(2-3): 66-75. PMID 31821530
22. Häggman-Henrikson B, Alstergren P, Davidson T, et al. Pharmacological treatment of oro-facial pain - health technology assessment including a systematic review with network meta-analysis. *J Oral Rehabil*. Oct 2017; 44(10): 800-826. PMID 28884860
23. Mena M, Dalbah L, Levi L, et al. Efficacy of topical interventions for temporomandibular disorders compared to placebo or control therapy: a systematic review with meta-analysis. *J Dent Anesth Pain Med*. Dec 2020; 20(6): 337-356. PMID 33409363
24. Machado D, Martimbianco ALC, Bussadori SK, et al. Botulinum Toxin Type A for Painful Temporomandibular Disorders: Systematic Review and Meta-Analysis. *J Pain*. 2020; 21(3-4): 281-293. PMID 31513934
25. Isacsson G, Schumann M, Nohlert E, et al. Pain relief following a single-dose intra-articular injection of methylprednisolone in the temporomandibular joint arthralgia-A multicentre randomised controlled trial. *J Oral Rehabil*. Jan 2019; 46(1): 5-13. PMID 30240024
26. Tchivileva IE, Hadgraft H, Lim PF, et al. Efficacy and safety of propranolol for treatment of temporomandibular disorder pain: a randomized, placebo-controlled clinical trial. *Pain*. Aug 2020; 161(8): 1755-1767. PMID 32701836
27. Jung A, Shin BC, Lee MS, et al. Acupuncture for treating temporomandibular joint disorders: a systematic review and meta-analysis of randomized, sham-controlled trials. *J Dent*. May 2011; 39(5): 341-50. PMID 21354460
28. Liu GF, Gao Z, Liu ZN, et al. Effects of Warm Needle Acupuncture on Temporomandibular Joint Disorders: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. *Evid Based Complement Alternat Med*. 2021; 2021: 6868625. PMID 34873409
29. Park EY, Cho JH, Lee SH, et al. Is acupuncture an effective treatment for temporomandibular disorder?: A systematic review and meta-analysis of randomized controlled trials. *Medicine (Baltimore)*. Sep 22 2023; 102(38): e34950. PMID 37746950
30. Manfredini D, Piccotti F, Guarda-Nardini L. Hyaluronic acid in the treatment of TMJ disorders: a systematic review of the literature. *Cranio*. Jul 2010; 28(3): 166-76. PMID 20806734
31. Machado E, Bonotto D, Cunali PA. Intra-articular injections with corticosteroids and sodium hyaluronate for treating temporomandibular joint disorders: a systematic review. *Dental Press J Orthod*. 2013; 18(5): 128-33. PMID 24352399





32. Goiato MC, da Silva EV, de Medeiros RA, et al. Are intra-articular injections of hyaluronic acid effective for the treatment of temporomandibular disorders? A systematic review. *Int J Oral Maxillofac Surg.* Dec 2016; 45(12): 1531-1537. PMID 27374020
33. Liu Y, Wu J, Fei W, et al. Is There a Difference in Intra-Articular Injections of Corticosteroids, Hyaluronate, or Placebo for Temporomandibular Osteoarthritis?. *J Oral Maxillofac Surg.* Mar 2018; 76(3): 504-514. PMID 29182905
34. Gorrela H, Prameela J, Srinivas G, et al. Efficacy of Temporomandibular Joint Arthrocentesis with Sodium Hyaluronate in the Management of Temporomandibular Joint Disorders: A Prospective Randomized Control Trial. *J Maxillofac Oral Surg.* Dec 2017; 16(4): 479-484. PMID 29038631
35. Manfredini D, Rancitelli D, Ferronato G, et al. Arthrocentesis with or without additional drugs in temporomandibular joint inflammatory-degenerative disease: comparison of six treatment protocols\*. *J Oral Rehabil.* Apr 2012; 39(4): 245-51. PMID 21999138
36. Bjørnland T, Gjaerum AA, Møystad A. Osteoarthritis of the temporomandibular joint: an evaluation of the effects and complications of corticosteroid injection compared with injection with sodium hyaluronate. *J Oral Rehabil.* Aug 2007; 34(8): 583-9. PMID 17650168
37. Bertolami CN, Gay T, Clark GT, et al. Use of sodium hyaluronate in treating temporomandibular joint disorders: a randomized, double-blind, placebo-controlled clinical trial. *J Oral Maxillofac Surg.* Mar 1993; 51(3): 232-42. PMID 8445463
38. Li J, Chen H. Intra-articular injection of platelet-rich plasma vs hyaluronic acid as an adjunct to TMJ arthrocentesis: A systematic review and meta-analysis. *J Stomatol Oral Maxillofac Surg.* Nov 03 2023; 125(2): 101676. PMID 37923134
39. Xu J, Ren H, Zhao S, et al. Comparative effectiveness of hyaluronic acid, platelet-rich plasma, and platelet-rich fibrin in treating temporomandibular disorders: a systematic review and network meta-analysis. *Head Face Med.* Aug 26 2023; 19(1): 39. PMID 37633896
40. Al-Hamed FS, Hijazi A, Gao Q, et al. Platelet Concentrate Treatments for Temporomandibular Disorders: A Systematic Review and Meta-analysis. *JDR Clin Trans Res.* Apr 2021; 6(2): 174-183. PMID 32464073
41. Liu SS, Xu LL, Liu LK, et al. Platelet-rich plasma therapy for temporomandibular joint osteoarthritis: A randomized controlled trial. *J Craniomaxillofac Surg.* Nov 2023; 51(11): 668-674. PMID 37852892
42. Dasukil S, Arora G, Boyina KK, et al. Intra-articular injection of hyaluronic acid versus platelet-rich plasma following single puncture arthrocentesis for the management of internal derangement of TMJ: A double-blinded randomised controlled trial. *J Craniomaxillofac Surg.* Nov 2022; 50(11): 825-830. PMID 36372680
43. Gökçe Kutuk S, Gökçe G, Arslan M, et al. Clinical and Radiological Comparison of Effects of Platelet-Rich Plasma, Hyaluronic Acid, and Corticosteroid Injections on Temporomandibular Joint Osteoarthritis. *J Craniofac Surg.* Jun 2019; 30(4): 1144-1148. PMID 31166260
44. Hegab AF, Hameed HIAA, Hassaneen AM, et al. Synergistic effect of platelet rich plasma with hyaluronic acid injection following arthrocentesis to reduce pain and improve function in TMJ osteoarthritis. *J Stomatol Oral Maxillofac Surg.* Feb 2023; 124(1S): 101340. PMID 36414172
45. Sit RW, Reeves KD, Zhong CC, et al. Efficacy of hypertonic dextrose injection (prolotherapy) in temporomandibular joint dysfunction: a systematic review and meta-analysis. *Sci Rep.* Jul 19 2021; 11(1): 14638. PMID 34282199
46. Haggag MA, Al-Belasy FA, Said Ahmed WM. Dextrose prolotherapy for pain and dysfunction of the TMJ reducible disc displacement: A randomized, double-blind clinical study. *J Craniomaxillofac Surg.* May 2022; 50(5): 426-431. PMID 35501215
47. Vos LM, Huddleston Slater JJ, Stegenga B. Lavage therapy versus nonsurgical therapy for the treatment of arthralgia of the temporomandibular joint: a systematic review of randomized controlled trials. *J Orofac Pain.* 2013; 27(2): 171-9. PMID 23630689
48. Al-Moraissi EA, Wolford LM, Ellis E, et al. The hierarchy of different treatments for arthrogenous temporomandibular disorders: A network meta-analysis of randomized clinical trials. *J Craniomaxillofac Surg.* Jan 2020; 48(1): 9-23. PMID 31870713
49. Hu Y, Liu S, Fang F. Arthrocentesis vs conservative therapy for the management of TMJ disorders: A systematic review and meta-analysis. *J Stomatol Oral Maxillofac Surg.* Feb 2023; 124(1S): 101283. PMID 36084892



50. Thorpe ARDS, Haddad Y, Hsu J. A systematic review and meta-analysis of randomized controlled trials comparing arthrocentesis with conservative management for painful temporomandibular joint disorder. *Int J Oral Maxillofac Surg.* Aug 2023; 52(8): 889-896. PMID 36732095
51. Hossameldin RH, McCain JP. Outcomes of office-based temporomandibular joint arthroscopy: a 5-year retrospective study. *Int J Oral Maxillofac Surg.* Jan 2018; 47(1): 90-97. PMID 28751180
52. American Association for Dental, Oral, and Craniofacial Research (AADOCR). Science Policy: Temporomandibular disorders (TMD). 1996 (revised 2010, reaffirmed 2015); <https://www.iadr.org/science-policy/temporomandibular-disorders-tmd>. Accessed March 8, 2024.
53. American Society of Temporomandibular Joint Surgeons. Guidelines for diagnosis and management of disorders involving the temporomandibular joint and related musculoskeletal structures. *Cranio.* Jan 2003; 21(1): 68-76. PMID 12555934
54. Busse JW, Casassus R, Carrasco-Labra A, et al. Management of chronic pain associated with temporomandibular disorders: a clinical practice guideline. *BMJ.* Dec 15 2023; 383: e076227. PMID 38101929
55. Chen YW, Chiu YW, Chen CY, et al. Botulinum toxin therapy for temporomandibular joint disorders: a systematic review of randomized controlled trials. *Int J Oral Maxillofac Surg.* Aug 2015;44(8):1018-1026. PMID 25920597

## History

Date	Comments
05/01/19	New policy, approved April 18, 2019. This policy replaces 2.01.21. Policy created with literature through December 2018. Policy statement added that two-piece intraoral prosthetic device or appliance is considered not medically necessary.
06/07/19	Interim Review, approved June 4, 2019, effective June 7, 2019. Added physical therapy and trigger point injections to medically necessary non-surgical treatments.
01/01/20	Coding update, removed CDT code D9940 as it terminated 1/1/19.
05/01/20	Annual Review, approved April 7, 2020. Policy updated with literature review through December 2019; references added. Policy statements unchanged. Added CPT code 20606, J7327, J7328, J7329, J7331 and J7332.
07/01/20	Coding update. Added code J7333.
05/01/21	Annual Review, approved April 13, 2021. Policy updated with literature review through January 8, 2021; references added. Investigational policy statement modified to include platelet concentrates. Added term date to HCPC code J7333.
05/01/22	Annual Review, approved April 12, 2022. Policy updated with literature review through December 20, 2021; references added. Dextrose prolotherapy added to investigational policy statement. Removed HCPCS code J7333.
11/01/22	Coding update. Added HCPCS codes J0585, J0586, J0587 and J0588. Revised coding descriptions on CDT codes D7880 & D7999.
05/01/23	Annual Review, approved April 10, 2023. Policy updated with literature review through December 19, 2022; references added. Minor editorial refinements to policy



Date	Comments
	statements; intent unchanged. Changed the wording from "patient" to "individual" throughout the policy for standardization.
05/01/24	Annual Review, approved April 8, 2024. Policy updated with literature review through December 13, 2023; references added. Policy statements unchanged.

**Disclaimer:** This medical policy is a guide in evaluating the medical necessity of a particular service or treatment. The Company adopts policies after careful review of published peer-reviewed scientific literature, national guidelines and local standards of practice. Since medical technology is constantly changing, the Company reserves the right to review and update policies as appropriate. Member contracts differ in their benefits. Always consult the member benefit booklet or contact a member service representative to determine coverage for a specific medical service or supply. CPT codes, descriptions and materials are copyrighted by the American Medical Association (AMA). ©2024 Premera All Rights Reserved.

**Scope:** Medical policies are systematically developed guidelines that serve as a resource for Company staff when determining coverage for specific medical procedures, drugs or devices. Coverage for medical services is subject to the limits and conditions of the member benefit plan. Members and their providers should consult the member benefit booklet or contact a customer service representative to determine whether there are any benefit limitations applicable to this service or supply. This medical policy does not apply to Medicare Advantage.





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### Language Assistance

**ATENCIÓN:** si habla español, tiene a su disposición servicios gratuitos de asistencia lingüística. Llame al 800-817-3056 (TTY: 711).

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**توجہ:** اگر بہ زبان فارسی گفتگو می کنید، تسهیلات زبانی بصورت رایگان برای شما فراهم می باشد. با 800-817-3056 (TTY: 711) تماس بگیرید.