

Medical Policy



Title: Temporomandibular Joint (TMJ) Dysfunction

Professional

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DESCRIPTION

Temporomandibular joint (TMJ) dysfunction refers to a group of disorders characterized by pain in the TMJ and surrounding tissues. Initial conservative therapy is generally recommended; there are also a variety of non-surgical and surgical treatment possibilities for patients whose symptoms persist.

Temporomandibular joint (TMJ) dysfunction (also known as TMJ disorders) refers to a cluster of problems associated with the temporomandibular joint and musculoskeletal structures. The etiology of TMJ disorders remains unclear and is believed to be multifactorial. TMJ disorders are often divided into two main categories: articular disorders (e.g., ankylosis, congenital or developmental disorders, disc derangement disorders, fractures, inflammatory disorders, osteoarthritis and joint dislocation) and

masticatory muscle disorders (e.g., myofascial pain, myofibrotic contracture, myospasm, and neoplasia).

There are no generally accepted criteria for diagnosing TMJ disorders. It is often a diagnosis of exclusion and involves physical examination, patient interview, and dental record review. Diagnostic testing and radiologic imaging is generally only recommended for patients with severe and chronic symptoms.

Symptoms attributed to TMJ dysfunction are varied 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).

For many patients, symptoms of TMJ dysfunction are short-term and self-limiting. Conservative treatments, such as eating soft foods, rest, heat, ice, and avoiding extreme jaw movements, and anti-inflammatory medication, are recommended prior to consideration of more invasive and/or permanent therapies, such as surgery.

Regulatory Status

At least 1 joint vibration analysis device has received clearance from the U.S. Food and Drug Administration (FDA). In February 2009, the BioEMG III Joint Vibration Analysis device (BioResearch Associates, Brown Deer, WI) was cleared for marketing by FDA through the 510(k) process. The intended use of the device is to record and display sounds and vibrations from the TMJ and to aid clinicians in the analysis of joint sound and vibrations. FDA Product Code: KZM.

Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage of these services as it applies to an individual member.

POLICY

- A. The following *diagnostic procedures* may be considered **medically necessary** in the diagnosis of TMJ dysfunction:
1. Diagnostic x-ray, tomograms, and arthrograms
 2. Computed tomography (CT) scan or magnetic resonance imaging (MRI) (in general, CT scans and MRIs are reserved for pre-surgical evaluations)
 3. Cephalograms (x-rays of jaws and skull)
 4. Panoramic radiographic image (x-rays of maxilla and mandible)

(Cephalograms and pantograms should be reviewed on an individual basis.)

- B. The *diagnostic procedures* considered **experimental / investigational** in the diagnosis of TMJ include the following, but are not limited to:
1. Electromyography (EMG), including surface EMG
 2. Kinesiography
 3. Thermography
 4. Neuromuscular junction testing
 5. Somatosensory testing
 6. Transcranial or lateral skull x-rays; Intra-oral tracing or gnathic arch tracing (intended to demonstrate deviations in the positioning of the jaws that are associated with TMJ dysfunction)
 7. Muscle testing
 8. Standard dental radiographic procedures
 9. Range of motion measurements
 10. Computerized mandibular scan (this 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 TMJ dysfunction)
 11. Ultrasound imaging/sonogram
 12. Arthroscopy of the TMJ for purely diagnostic purposes
 13. Joint vibration analysis
- C. The following *nonsurgical treatments* may be considered **medically necessary** in the treatment of TMJ dysfunction:
1. Intra-oral removable prosthetic devices/appliances (encompassing fabrication, insertion, and adjustment)
 2. Pharmacologic treatment (such as anti-inflammatory, muscle relaxing, and analgesic medications)
- D. The *nonsurgical treatments* considered **experimental / investigational** in the treatment of TMJ dysfunction include the following, but are not limited to:
1. Electrogalvanic stimulation
 2. Iontophoresis
 3. Biofeedback
 4. Ultrasound
 5. Devices promoted to maintain joint range of motion and to develop muscles involved in jaw function
 6. Orthodontic services
 7. Dental restorations/prostheses
 8. Transcutaneous electrical nerve stimulation (TENS)
 9. Percutaneous electrical nerve stimulation (PENS)
 10. Physical therapy, including diathermy, infrared and heat and cold treatment, and manipulation
 11. Acupuncture
 12. Hyaluronic acid

- E. The following *surgical treatments* may be considered **medically necessary** in the treatment of TMJ dysfunction:
1. Arthrocentesis
 2. Arthroscopic surgery in patients with objectively demonstrated (by physical examination or imaging) internal derangements (displaced discs) or degenerative joint disease who have failed conservative treatment
 3. Open surgical procedures (when TMJ dysfunction is the result of congenital anomalies, trauma, or disease in patients who have failed conservative treatment) including, but not limited to arthroplasties; condylectomies; meniscus or disc plication and disc removal

RATIONALE

Literature Review

An initial literature search with the MEDLINE database was performed through March 1995. The policy was updated regularly; the most recent literature review was through May 5, 2014. Recent literature searches have concentrated on identifying systematic reviews and meta-analyses. For treatment of temporomandibular (TMJ) disorders, the focus has been on studies that compared novel treatments with conservative interventions and/or placebo controls (rather than no-treatment control groups) and that reported pain reduction and/or functional outcomes, eg, jaw movement.

Diagnosis of TMJ dysfunction

Several systematic reviews of the literature on specific techniques for diagnosing TMJ were identified and are described next.

Magnetic resonance imaging

A systematic review on magnetic resonance imaging (MRI) was published in 2009 by Koh et al and included 23 studies.(1) Eight of the 23 studies found a relationship between a clinical and MRI diagnosis. The authors found substantial variability in study design, methods of clinical examination, and diagnostic criteria and therefore could not pool study findings. The Koh et al review concluded that there is no clear evidence of a relationship between clinical and MRI diagnosis, and findings and additional studies using improved methodologies are needed.

Ultrasound

A 2009 systematic review identified 20 studies evaluating ultrasound for diagnosing TMJ disorders; all studies evaluated disc displacement and several additionally considered osteoarthritis and/or joint effusion.(2) The reported sensitivity of ultrasound to detect disc displacement, compared with the reference standard (MRI in most studies), ranged from 31% to 100%, and the specificity ranged from 30% to 100%. The investigators stated that, even when changes in ultrasound technology over time were taken into consideration, study findings were contradictory. They noted unexplained differences between studies conducted by the same group of researchers. The authors concluded that additional progress needs to be made in standardizing ultrasound assessment of the TMJ joint before this can be considered an accurate tool for diagnosing TMJ disorders.

Surface electromyography

The authors of a 2006 systematic review on surface electromyography found a lack of literature on the accuracy of this method of diagnosis, compared with a criterion standard (ie, comprehensive clinical examination and history-taking).(3) They concluded that there is insufficient evidence that electromyography can accurately separate people with facial pain from those without pain but that the technique may be useful in a research setting.

Joint vibration analysis

In 2013, Sharma et al published a systematic review of literature on joint vibration analysis for diagnosis of TMJ disorders.(4) The authors identified 15 studies that evaluated the reliability and/or diagnostic accuracy of joint vibration analysis compared with a reference standard. Methodologic limitations were identified in all the studies. These limitations included the absence of well-defined diagnostic criteria, use of a nonvalidated system for classifying disease progression, variability within studies in the reference standard, and lack of blinding. In the 14 studies reporting on diagnostic accuracy, there was a wide range of reported values, with sensitivity ranging from 50% to 100% and specificity ranging from 59% to 100%.

Treatment of TMJ dysfunction

A 2010 article by List and Axelsson was a review of systematic reviews on treatments for TMJ dysfunction published through August 2009.(5) The authors identified 30 reviews; there were 23 qualitative systematic reviews and 7 meta-analyses. Eighteen of the systematic reviews included only randomized controlled trials (RCTs), 3 included case-control studies, and 9 included a mixture of RCTs and case series. There was inconsistency in how TMJ disorders were defined in the primary studies and systematic reviews, and several of the reviews addressed the related diagnoses of bruxism, disc replacements, and myofascial pain. Twenty-nine of the systematic reviews had pain intensity or pain reduction as the primary outcome measure, and 25 reported clinical outcome measures such as jaw movement or jaw tenderness on palpation. The authors divided the treatments into 5 categories (some studies were included in more than 1 category). These categories and the main findings are as follows:

1. Occlusal appliances, occlusal adjustment, and orthodontic treatment (10 articles): 6 systematic reviews did not find significant benefit compared with other treatments, 4 found no benefit compared with a placebo device, and 3 found that occlusal therapy was better than no treatment.
2. Physical therapy including acupuncture, transcutaneous electrical nerve stimulation (TENS), exercise and mobilization (8 articles): 4 reviews found no significant benefit of acupuncture over other treatments, 1 found no difference between acupuncture and placebo treatment, and 3 found that acupuncture was better than no treatment.
3. Pharmacologic treatment (7 articles): treatments found to be superior to placebo were analgesics (2 reviews), clonazepam or diazepam (3 reviews), antidepressants (4 reviews) and hyaluronate (1 review). The last review also found hyaluronate and corticosteroids to have a similar effect.
4. Maxillofacial surgery (4 articles): 3 reviews evaluated surgery for patients with disc displacements and the fourth addressed orthognathic surgery in patients with TMJ disorder. Reviews of surgical treatments generally included lower level evidence, eg, case series, and did not always compare surgery with a control condition. One systematic review found a similar effect of arthrocentesis, arthroscopy, and physical therapy.
5. Behavioral therapy and multimodal treatments (6 articles): 2 reviews found biofeedback to be better than active control or no treatment, 1 review found a combination of biofeedback

and cognitive-behavioral therapy to be better than no treatment, and 2 found a combination of biofeedback and relaxation to be better than no treatment. One review found that the effects of biofeedback and relaxation were similar.

Overall, the authors concluded that there is insufficient evidence that electrophysical modalities and surgery are effective for treating TMJ dysfunction. They found some evidence that occlusal appliances, acupuncture, behavioral therapy, jaw exercise, postural training, and some medications can be effective in reducing pain for patients with TMJ disorders. However, the authors note that most of the systematic reviews they examined included primary studies with considerable variation in methodologic quality, and thus, it is not possible to make definitive conclusions about the effectiveness of any of the treatments.

Representative systematic reviews and meta-analyses on specific treatments for TMJ disorders are summarized next.

Intraoral appliances/devices

A 2010 systematic review searched for RCTs on intraoral treatment of TMJ disorders and identified 47 publications on 44 trials.⁽⁶⁾ Intraoral appliances included soft and hard stabilization appliances, anterior positioning appliances, anterior bite appliances, and soft resilient appliances. Studies compared 2 types of devices or compared 1 device with a different treatment, eg, acupuncture or biofeedback. None of the studies evaluated use of 1 device during the day and a different device during the night. The primary outcome of the meta-analysis was pain. Pain was measured differently in the studies, and the authors defined a successful outcome as at least a 50% reduction in pain on a self-report scale or at least an "improved" status when pain was measured by subjective report of status. Ten RCTs were included in a meta-analysis; the others were excluded because they did not measure pain, there were not at least 2 studies using similar devices or control groups, or data were not usable in a pooled analysis. A pooled analysis of 7 RCTs with 385 patients evaluating hard stabilization appliances and using palatal nonoccluding appliances as a control found a significantly greater reduction in pain with hard appliances (odds ratio [OR], 2.45; 95% confidence interval [CI], 1.56 to 3.86; $p < 0.001$). A pooled analysis of 3 studies with 216 patients did not find a significant effect of hard appliances compared with a no-treatment control group (OR=2.14; 95% CI, 0.80 to 5.75; $p = 0.12$) ($p = 0.86$).

Stabilization splints

In 2012, Ebrahim et al identified 11 RCTs comparing splint therapy for TMJ with minimal or no therapy.⁽⁷⁾ Nine of the 11 studies used stabilization splints, 1 used soft splints and 1 used an anterior repositioning appliance. The authors used the GRADE system to rate study quality. Nine studies did not report whether allocation was concealed, and 6 studies did not report masking of outcome assessors. Length of follow-up in the studies ranged from 6 to 52 weeks. A pooled analysis of study findings found that splint therapy was significantly associated with a reduction in reported pain compared with minimal or no intervention (standardized mean difference [SMD], -0.93; 95% CI, -1.33 to -0.53). Using a visual analog scale (VAS) to measure pain, splint therapy was associated with an 11.5 mm lower mean VAS score (95% CI, -16.5 to -6.6 mm). There were not statistically significant differences between groups in quality of life or depression scores. An earlier meta-analysis by Al-Ani et al, published in 2004, identified 12 RCTs that compared stabilization splint therapy for TMJ dysfunction with a control intervention.⁽⁸⁾ (The control group was not limited to minimal or no intervention as in the Ebrahim review, previously described).

There was wide variability in the comparison interventions and no standardization of outcomes; thus, results of the studies were not pooled.

Orthodontic services

A 2010 Cochrane review by Luther et al did not identify any RCTs evaluating orthodontic treatment for treating TMJ disorders and thus concluded that there is insufficient evidence on the efficacy of orthodontics.(9) They defined orthodontic treatment as appliances that would induce stable tooth movement for a sufficient period of time to bring about permanent change in tooth position.

Acupuncture

A 2011 meta-analysis identified 7 sham-controlled RCTs on acupuncture for treating TMJ disorders.(10) The studies included a total of 141 patients. Sample sizes of individual studies ranged from 7 to 28. Four studies used a single acupuncture session, and the other 3 used 6 to 12 sessions. All 7 studies reported change in pain intensity as assessed by VAS. In 6 of the studies, pain intensity was measured immediately after treatment, the seventh measured pain after 16 weeks. A pooled analysis of findings from 5 studies (n=107) found a statistically significant improvement in pain intensity, as measured by VAS. The pooled weighted mean difference (WMD) in pain intensity was -13.63 (95% CI, -21.16 to -6.10; p<0.001). In a subgroup analysis, a pooled analysis of 4 studies (n=89) found acupuncture to be superior to a nonpenetrating sham acupuncture (WMD= -13.73; 95% CI, -21.78 to -5.67; p<0.001). A pooled analysis of 2 studies (n=18) did not find a significant difference in efficacy between acupuncture and a penetrating sham acupuncture (WMD= -12.95; 95% CI, -34.05 to 8.15; p=0.23). The latter analysis may have been underpowered. The authors noted that previous studies have found that a 24.2-mm change in pain assessed by a 100-mm VAS represents a clinically significant difference and that only 2 of the included studies had a change of 24.2 mm or more. The evidence on acupuncture is limited by the small number of studies, small sample sizes, and, in most studies, assessment of effectiveness only immediately post-treatment.

Behavioral therapy/psychosocial interventions

In 2011, the Cochrane collaboration published a systematic review of psychosocial interventions for managing chronic orofacial pain.(11) The review included 15 RCTs on TMJ disorders. However, only 9 of the trials had data that were suitable for pooling; the others were excluded due to study design and/or because they only reported data graphically. The 9 studies had a high degree of heterogeneity, eg, used different interventions, reported different outcomes or outcomes over different time periods. The interventions addressed in the studies included cognitive-behavioral therapy (CBT) alone (4 studies), biofeedback alone (2 studies), combination of CBT and biofeedback (2 studies), and physical self-regulation (1 study). Short-term follow-up was defined as 3 months or less, and long-term as more than 3 months. Due to heterogeneity among studies, an overall pooled analysis of data from the 7 studies on short-term pain could not be performed. The investigators were able to pool data from the 2 studies on combined CBT and biofeedback compared with usual care; the analysis found a statistically significant difference favoring usual care (SMD=0.46; 95% CI, 0.02 to 0.90). A pooled analysis of the 2 studies on biofeedback alone did not find a significant benefit of the intervention (SMD=-0.41; 95% CI, -1.06 to 0.25). In a pooled analysis of data from the 7 studies on long-term change in pain, there was a statistically significant difference in favor of psychosocial interventions compared with control interventions (SMD=-0.34; 95% CI, -0.50 to -0.18). Pooled analyses of 4 studies on CBT alone and 3 studies on CBT plus biofeedback also significantly favored the group receiving the

psychosocial intervention. Only 1 study each reported long-term pain with biofeedback alone and with physical self-regulation. A more recent systematic review was published in 2013, but the authors did not pool study findings due to heterogeneity among interventions and study designs.(12)

Surgery

A Cochrane review by Guo et al, last updated in 2009, identified 2 RCTs with a total of 81 patients that evaluated the effectiveness of arthrocentesis and lavage for the treatment of TMJ dysfunction compared with arthroscopy.(13) Data were pooled only for the outcome maximum incisal opening. A meta-analysis of the 2 trials found a statistically significant difference between the interventions for this outcome with a WMD of -5.28 (95% CI, -7.10 to -3.46) in favor of arthroscopy.

In a 2013 systematic review, Vos et al identified 3 RCTs with a total of 222 patients comparing the efficacy of lavage of the TMJ (ie, arthrocentesis or arthroscopy) with nonsurgical TMJ treatment.(14) Although they assessed the quality of the studies to be adequate, only 1 study stated that allocation to treatment group was concealed, and 2 studies did not explicitly state that an intention-to-treat analysis was used. The 2 primary outcomes considered were change in pain and maximal mouth opening (MMO) at 6 months compared with baseline. Pain was measured by VAS. Pooled analysis of data from the 3 trials found a statistically significant reduction in pain at 6 months with lavage versus nonsurgical therapy (SMD=-1.07; 95% CI, -1.38 to -0.76). There was not a statistically significant difference in the efficacy of the 2 treatments for the other outcome variable, MMO (SMD=-0.05; 95% CI, -0.33 to 0.23).

Hyaluronic acid

There are several systematic reviews of studies on hyaluronic acid for treating TMJ disorders.(15-17) Only 1 of the systematic reviews limited its inclusion criteria to RCTs and pooled study findings. This was a Cochrane review by Shi et al, published in 2003.(17) The Shi review included RCTs comparing the effect of at least 1 hyaluronic acid injection alone or in combination with other active treatments with placebo or glucocorticoid injections alone or in combination with the same active treatment group. A total of 7 studies met inclusion criteria; 3 studies compared hyaluronic acid and placebo, 3 studies compared hyaluronic acid and glucocorticoids, and 2 studies compared hyaluronic acid plus arthroscopy or arthrocentesis with arthroscopy or arthrocentesis alone. (One study included 3 arms and was included in the first 2 comparisons.) Five of the 7 studies included fewer than 50 participants.

Outcomes were categorized as symptoms, which reflected subjective feeling and the judgment of the patients, and clinical signs, which reflected objective judgment of the observer. A meta-analysis of 2 trials did not find a statistically significant difference between hyaluronic acid and placebo on short-term (<3 months) improvement in symptoms (risk ratio [RR], 1.24; 95% CI, 0.72 to 2.14). Similarly, a pooled analysis of 3 trials did not find a significant difference between hyaluronic acid and placebo on short-term improvement of clinical signs (RR=1.69; 95% CI, 0.80 to 3.57). However, a pooled analysis of 2 studies found a statistically significant between-group difference in long-term effect on clinical signs (RR=1.71; 95% CI, 1.05 to 2.77) (long-term was defined as ≥3 months). For the comparison between hyaluronic acid and glucocorticoids, only short-term data were available for pooling. There were no significant differences between groups on short-term improvement in symptoms (2 studies; RR=0.99; 95% CI, 0.84 to 1.17) or short-term improvement in clinical signs (3 studies; RR=0.91; 95% CI, 0.66 to 1.25). Data were not

pooled for studies on combination treatment (hyaluronic acid plus arthroscopy or arthrocentesis). The investigators concluded that there is insufficient consistent evidence to draw conclusions on the use of hyaluronate for treating patients with TMJ disorders.

Most of the published RCTs evaluating hyaluronic acid for treating TMJ disorders had small sample sizes, short follow-up times, and/or lack of blinding. Representative RCTs published through May 2012 are described next. RCTs with larger sample sizes and stronger methodology were selected for description.

A 2012 study by Manfredini et al in Italy randomized 72 patients with TMJ dysfunction to 1 of 6 treatment groups: (1) single-session arthrocentesis alone; (2) single-session arthrocentesis plus corticosteroid; (3) single-session arthrocentesis plus low-molecular weight hyaluronic acid; (4) single-session arthrocentesis plus high-molecular weight hyaluronic acid; (5) 5 weekly 2-needle arthrocenteses plus low-molecular weight hyaluronic acid; or (6) 5 weekly single-needle arthrocenteses plus low-molecular weight hyaluronic acid.⁽¹⁸⁾ A total of 60 of 72 (83%) participants completed the study, between 9 and 12 patients per treatment group. In a per protocol analysis, there were no significant differences among groups on any of the outcome variables at the 3-month follow-up. For example, the percentage change in pain (SD) at rest ranged from -29.1% (62.9%) in the group receiving 5 weekly single-needle arthrocenteses plus low-molecular weight hyaluronic acid to -38.4% (56.5%) in the group receiving a single session of arthrocentesis alone. Limitations of the study include the small number of patients in each treatment group and the substantial number of dropouts in absence of an intention-to-treat analysis.

A 2007 study by Bjorland et al in Norway published a double-blind RCT that included 40 patients with osteoarthritis of the TMJ.⁽¹⁹⁾ Patients received 2 injections, 14 days apart, of either sodium hyaluronate or corticosteroids. Pain was assessed using VAS from 0 to 100. Patients were followed for 6 months (assessed at 14 days, 1 month, and 6 months). There was a statistically significant reduction in pain within each group at all of the follow-up points. At the 6-month follow-up, pain intensity (mean VAS score [SD]) was 14 (16) in the hyaluronic acid group and 31 (32) in the corticosteroid group; the difference was statistically significant ($p < 0.001$). The number of patients who were pain-free at 6 months was 7 of 20 (35%) in the hyaluronic acid group and 6 of 20 (30%) in the corticosteroid group (p value not reported).

Bertolami et al published a double-blind placebo-controlled trial in 1993 which included 121 TMJ patients.⁽²⁰⁾ Patients needed to have a confirmed diagnosis of degenerative joint disease (DJD), reducing displaced disc (DDR) or nonreducing displaced disc (DDN), to have failed other nonsurgical treatments, and to have severe dysfunction. Patients received a single injection of sodium hyaluronate or saline and were followed for 6 months. A total of 80 patients were randomized to the hyaluronate group and 41 to the placebo group. This included a total of 57 patients in the DJD group, 50 patients in the DDR group, and 14 patients in the DDN group. Fourteen of 121 patients (12%) were excluded from the analysis because they were found not to meet eligibility criteria. No significant differences in outcomes were seen for the DJD group. In the DDN group, there were significant between-group differences through 1 month, favoring the hyaluronic acid group. The number of patients in the DDN group who completed follow-up after 1 month was insufficient to draw meaningful conclusions about efficacy. In the DDR group, there were no statistically significant differences between groups in any outcome at 1 or 2 months. At 3 and 6 months, 2 of 7 reported outcomes were significantly better in the hyaluronic acid group

compared with the placebo group. At 5 months, 5 of 7 reported outcomes were significantly better in the hyaluronic acid group. The 7 outcomes included 3 measures of dysfunction, 2 measures of patient perception of improvement, 2 measures of change in noise. The most consistent between-group differences in the DDR group were for the 2 measures of patient perception of improvement and 1 of the noise variables. There were fewer between-group differences on dysfunction measures.

Summary

The evidence on diagnosis of TMJ dysfunction supports the use of several diagnostic modalities, as listed in the policy statement. The evidence on treatment of TMJ dysfunction includes a large number of RCTs evaluating different treatment modalities, and systematic reviews of these RCTs. Based on this evidence and clinical guidelines, certain treatment modalities may be considered medically necessary, as listed in the policy statements and other treatments are considered investigational.

Practice Guidelines and Position Statements

American Association for Dental Research: A policy statement, revised in 2010, recommends the following for the diagnosis and treatment of TMJ disorders(21):

“It is recommended that the differential diagnosis of TMDs or related orofacial pain conditions should be based primarily on information obtained from the patient's history, clinical examination, and when indicated, TMJ 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 patients 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: Consensus clinical guidelines, published in 2001, focus on TMJ associated with internal derangement and osteoarthritis.(22) For diagnosis of this type of TMJ dysfunction, a detailed history and, when indicated, general physical examination are recommended. Imaging of the TMJ and associated structures is also recommended. Options for basic radiography to provide information on temporal bone and condylar morphology include use of plain films, panoramic films, and tomograms. Also recommended is imaging of the disc and associated soft tissue with MRI or arthrography. Other diagnostic procedures that may be indicated include computed tomography, MRI, arthrography (for selected cases) and isotope bone scans.

Nonsurgical treatment should be considered first for all symptomatic patients with this condition. Recommended treatment options include change in diet, nonsteroidal anti-inflammatory drugs, maxillomandibular appliances, physical therapy, injections of corticosteroids or botulinum toxin, and behavior modification. If adequate symptom relief does not occur within 2 to 3 weeks, surgical consultation is advised. The guideline states that the following surgical procedures are considered to be accepted and effective for patients with TMJ associated with internal derangement/osteoarthritis:

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

U.S. Preventive Services Task Force

TMJ dysfunction is not a preventive service.

CODING

The following codes for treatment and procedures applicable to this policy are included below for informational purposes. Inclusion or exclusion of a procedure, diagnosis or device code(s) does not constitute or imply member coverage or provider reimbursement. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage of these services as it applies to an individual member.

CPT/HCPCS

20605	Arthrocentesis, aspiration and/or injection; intermediate joint or bursa (e.g., temporomandibular, acromioclavicular, wrist, elbow or ankle, olecranon bursa)
21010	Arthrotomy, temporomandibular joint
21116	Injection procedure for temporomandibular joint arthrography
21050	Condylectomy, temporomandibular joint
21060	Meniscectomy, partial or complete, temporomandibular joint
21073	Manipulation of temporomandibular joint(s) (TMJ, therapeutic, requiring an anesthesia service (i.e., general or monitored anesthesia care)
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
29800	Arthroscopy, temporomandibular joint, diagnostic, with or without synovial biopsy (separate procedure)
29804	Arthroscopy, temporomandibular joint, surgical
70328	Radiologic examination, 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
70336	Magnetic resonance (e.g., proton) imaging, temporomandibular joint(s)
70350	Cephalogram, orthodontic
70355	Orthopantomogram

ICD-9 Diagnoses

524.01	Major anomalies of jaw size; Maxillary hyperplasia
524.02	Major anomalies of jaw size; Mandibular hyperplasia
524.03	Major anomalies of jaw size; Maxillary hypoplasia
524.04	Major anomalies of jaw size; Mandibular hypoplasia
524.05	Major anomalies of jaw size; Macrogenia
524.06	Major anomalies of jaw size; Microgenia
524.09	Major anomalies of jaw size; Other specified anomaly
524.10	Anomalies of relationship of jaw to cranial base; Unspecified anomaly
524.11	Anomalies of relationship of jaw to cranial base; Maxillary asymmetry
524.12	Anomalies of relationship of jaw to cranial base; Other jaw asymmetry
524.19	Anomalies of relationship of jaw to cranial base; Other specified anomaly
524.4	Malocclusion, unspecified
524.50	Dentofacial functional abnormalities; dentofacial functional abnormality, unspecified
524.51	Dentofacial functional abnormalities; abnormal jaw closure
524.52	Dentofacial functional abnormalities; limited mandibular range of motion
524.53	Dentofacial functional abnormalities; limited mandibular range of motion
524.54	Dentofacial functional abnormalities; insufficient anterior guidance
524.55	Dentofacial functional abnormalities; centric occlusion maximum intercuspation discrepancy
524.56	Dentofacial functional abnormalities; non-working side interference
524.57	Dentofacial functional abnormalities; lack of posterior occlusal support
524.60	Temporomandibular joint disorders, unspecified
524.61	Adhesions and ankylosis (bony or fibrous)
524.62	Arthralgia of the temporomandibular joint
524.63	Articular disc disorder (reducing or non-reducing)
524.64	Temporomandibular joint sounds on opening and/or closing the jaw
524.69	Other specified temporomandibular joint disorders
526.89	Congenital anomaly (includes condylar hypoplasia/hyperplasia)
526.9	Jaw disease
959.0	Injury; jaw

ICD-10 Diagnoses (Effective October 1, 2015)

M26.60	Temporomandibular joint disorder, unspecified
M26.69	Other specified disorders of temporomandibular joint
M26.61	Adhesions and ankylosis of temporomandibular joint
M26.62	Arthralgia of temporomandibular joint
M26.63	Articular disc disorder of temporomandibular joint
M27.8	Other specified disease of jaws
M27.0	Developmental disorders of jaws
M27.9	Disease of jaws, unspecified

REVISIONS

01-01-2014	Policy added to the bcbsks.com web site.
10-01-2014	Description section updated
	In Policy section: <ul style="list-style-type: none"> ▪ Removed Item E 2 "Manipulation for reduction of fracture or dislocation of the TMJ" as it was not felt to be unique to this policy subject.
	Rationale section updated
	In Coding section: <ul style="list-style-type: none"> ▪ Corrected CPT Code 90336 to be 70336
	References updated

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