Clinical Policy Title: Temporomandibular joint disorder

Clinical Policy Number: 14.02.02

Effective Date: September 1, 2013
Initial Review Date: May 13, 2013
Most Recent Review Date: June 15, 2016
Next Review Date: June 2017

Related policies:

CP# 00.02.02 Botulinum toxin products
CP# 14.03.01 Orthognathic surgery

About this Policy: Prestige Health Choice has developed clinical policies to assist with making coverage determinations. Prestige Health Choice’s clinical policies are based on guidelines from established industry sources, such as the Centers for Medicare & Medicaid Services (CMS), state regulatory agencies, the American Medical Association (AMA), medical specialty professional societies, and peer-reviewed professional literature. These clinical policies along with other sources, such as plan benefits and state and federal laws and regulatory requirements, including any state- or plan-specific definition of “medically necessary,” and the specific facts of the particular situation are considered by Prestige Health Choice when making coverage determinations. In the event of conflict between this clinical policy and plan benefits and/or state or federal laws and/or regulatory requirements, the plan benefits and/or state and federal laws and/or regulatory requirements shall control. Prestige Health Choice’s clinical policies are for informational purposes only and not intended as medical advice or to direct treatment. Physicians and other health care providers are solely responsible for the treatment decisions for their patients. Prestige Health Choice’s clinical policies are reflective of evidence-based medicine at the time of review. As medical science evolves, Prestige Health Choice will update its clinical policies as necessary. Prestige Health Choice’s clinical policies are not guarantees of payment.

Coverage policy

Prestige Health Choice considers the treatment of temporomandibular joint (TMJ) disorder or temporomandibular disorder (TMD) to be mostly ineffective and, therefore, not medically necessary.

Limitations:

Coverage determinations are subject to benefit limitations and exclusions as delineated by the state Medicaid authority. The Florida Medicaid website can be accessed at http://ahca.myflorida.com/Medicaid/.

All other invasive or splinting therapies for temporomandibular joint disorder are not medically necessary.
Alternative covered services:

No evidence from the peer-reviewed literature supports the effectiveness of any treatments for TMJ disorder or TMD (see table, pages 2 – 4).

**Background**

TMD, or TMJ disorder, is characterized by discomfort, sounds, or dysfunction (limited movement or locking of the jaw) in the temporomandibular joint and surrounding muscles or by occlusion of the teeth (grinding or bruxism). The disorder is multifactorial, including psychogenic contributors, with symptoms varying over time and apparently spontaneous remissions. It is also common, with 20 percent to 30 percent of adults experiencing symptoms.

Attempts to treat this complex condition have included conservative and reversible modalities (reassurance, education, nonsteroidal anti-inflammatory drugs (NSAIDs), removable appliances such as night guards, behavioral and psychosocial interventions, biofeedback, and exposure to certain kinds of light) and irreversible modalities (arthrocentesis, occlusal adjustments orthodontics, joint replacement, injection of hyaluronate or Botulinum toxin into the joint, and orthognathic or corrective jaw surgery).

(See policy #14.03.01 on orthognathic surgery.)

**Searches**

Prestige Health Choice searched PubMed and the databases of:

- UK National Health Services Centre for Reviews and Dissemination.
- Agency for Healthcare Research and Quality guideline clearinghouse and evidence-based practice centers.
- The Centers for Medicare & Medicaid Services (CMS).

We conducted searches on May 26, 2016. Search terms were: “temporomandibular joint” and “temporomandibular joint disorder.”

We included:

- **Systematic reviews**, which pool results from multiple studies to achieve larger sample sizes and greater precision of effect estimation than in smaller primary studies. Systematic reviews use predetermined transparent methods to minimize bias, effectively treating the review as a scientific endeavor, and are thus rated highest in evidence-grading hierarchies.
- **Guidelines based on systematic reviews**.
- **Economic analyses**, such as cost-effectiveness, and benefit or utility studies (but not simple cost studies), reporting both costs and outcomes — sometimes referred to as efficiency studies — which also rank near the top of evidence hierarchies.
Overview of the literature: systematic reviews/guidelines and economic analyses for temporomandibular joint disorder: reverse chronological order and then alphabetically by first author.

Findings

Many reviewers found weak, inconclusive or otherwise insufficient evidence for firm conclusions about the effectiveness of diagnostic tests and/or interventions.

No cost-effectiveness evidence is available.

Policy updates:

None.

Summary of clinical evidence:

<table>
<thead>
<tr>
<th>Citation</th>
<th>Content, Methods, Recommendations</th>
</tr>
</thead>
</table>
| CADTH (2013) Canadian Agency for Drugs and Technologies in Health | Key points:  
  • Neuromuscular occlusion for diagnosis and treatment: insufficient evidence. |
| Zongdao (Cochrane; 2013) | Key points:  
  • Hyaluronate: insufficient evidence. |
| Alberta Institute of Health Economics (2013) | Key points:  
  • Total prosthetic replacement: no available cost-effectiveness information. |
| De Souza (Cochrane; 2012) | Key points:  
  • 1950 – 2011.  
  • Randomized controlled trials (RCTs): comparing any forms of surgical or nonsurgical therapies in adults with clinical and radiographic confirmation of osteoarthritis.  
  • Three trials only: meta-analysis precluded.  
  • Insufficient evidence. |
| Ebrahim (2012) | Key points:  
  • Eleven eligible studies.  
  • Promising, but more research is needed. |
| Katsnelson (2012) | Key points:  
  • TMJ ankylosis: Four studies only. Insufficient evidence. |
<table>
<thead>
<tr>
<th>Citation</th>
<th>Content, Methods, Recommendations</th>
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</thead>
</table>
| Aggarwal (Cochrane; 2011) | **Key points:**  
  - RCTs: nonpharmacological psychosocial interventions vs. any other form or treatment.  
  - Conclusions: evidence is weak, but noninvasive nature may encourage use. |
| Rigon (Cochrane; 2011) | **Key points:**  
  - Both arthroscopy and open surgery reduced pain after six months.  
  - Open surgery was more effective after 12 months.  
  - Arthroscopy more effective than arthrocentesis at increasing opening after 12 months, but no difference in pain. |
| AAPD(2010) | **Key points:**  
  - Consensus recommendations.  
  - Assessment should include: history and physical for pain, dysfunction, previous trauma.  
  - Reversible therapies: patient education, physical therapy, behavioral, prescription drugs, occlusal splints.  
  - Avoidance of irreversible: occlusal adjustment, mandibular repositioning, orthodontics due to lack of evidence in this population. |
| Luther (Cochrane; 2010) | **Key points:**  
  - 2010: RCTs in adults.  
  - Insufficient evidence. |
| Mujakperuo (Cochrane; 2010) | **Key points:**  
  - RCTs: agent vs. placebo; but not parenteral administration.  
  - Insufficient evidence. |
| CADTH (2009) Canadian Agency for Drugs and Technologies in Health | **Key points:**  
  - Botulinum toxin: insufficient evidence. |
| Guo (Cochrane; 2009) | **Key points:**  
  - Insufficient evidence. |
| Al-Riyami (2009) | **Key points:**  

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<thead>
<tr>
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<th>Content, Methods, Recommendations</th>
</tr>
</thead>
</table>
| Orthognathic treatment and TMD | - Search dates not reported: RCTs, case-control, cohort synthesized narratively.  
- Fifty-three studies (N = 8028).  
- Meta-analysis included a small number of studies, substantial heterogeneity, and no definitive results. |
| Shi (Cochrane; 2009) | **Key points:**  
- Seven studies, 109 subjects.  
- Insufficient evidence. |
| Hyaluronate (intra-articular injection) for TMJ | **Key points:**  
- Placebo-controlled trials, English.  
- Six small trials of variable quality.  
- Mixed and inconclusive results. |
| Hayes (2006) | **Key points:**  
- Controlled and uncontrolled studies suggest that prosthesis provides statistically and clinically significant long-term improvements in pain, jaw opening, function, and dietary restrictions.  
- Patients with severe TMJ disorder who have failed grafting may benefit.  
- Complications: heterotropic bone formation (20%); infection/immunologic reaction (3%); loosening, dislocation, or incorrect fit (6%); follow-up (FU) ≥ 2 years, 8% required or requested removal.  
- Contraindications: infection at implantation site, bruxism or other masticatory muscle hyperfunction, allergy to prosthesis materials. |
| Hayes (2008) | **Key points:**  
- RCTs: stabilization vs. no therapy, other occlusal appliance, or other active intervention.  
- Twelve studies pooled.  
- Insufficient evidence. |
| Ziad (Cochrane; 2004) | **Key points:**  
- RCTs: adjustment vs. placebo, reassurance or no adjustment.  
- Six trials (392 subjects) pooled: no difference between intervention and control. |
| Koh (Cochrane; 2003) | **Key points:**  
- RCTs: adjustment vs. placebo, reassurance or no adjustment.  
- Six trials (392 subjects) pooled: no difference between intervention and control. |
### Orthodontic treatment for TMD

- RCTs; cohort; case-control; “prospective.”
- Inconclusive.

### Crider (1999)

**EMG biofeedback for TMD**

**Key points:**

- Controlled clinical trial (CCTs) vs. placebo or no treatment.
- Pre- to post-procedure differences approached significance at P < 0.10.
- Inclusive due to limitations in this review’s reporting controlled results data (CRD).

### Forssell (1999)

**Occlusal treatments in TMD**

**Key points:**

- Occlusal splint or adjustment.
- Excluded: comparisons of different types of splints or combination occlusal with other treatment.
- No language restrictions.
- Included study limitations = results suggestive not conclusive: splints may have some benefit, but there is no evidence for adjustment.

### Glossary

**Arthrocentesis** — Using a needle to puncture, irrigate, or remove fluid from the joint; sometimes accompanied by manipulation and usually with local anesthesia.

**Botulinum toxin** — A bacterial toxin used to treat muscle spasm or other involuntary movement (see policy # 00.02.02 botulinum toxin).

**Medically necessary** — A service or benefit is medically necessary if it is compensable under the Medical Assistance program and if it meets any one of the following standards:

- The service or benefit will, or is reasonably expected to, prevent the onset of an illness, condition, or disability.
- The service or benefit will, or is reasonably expected to, reduce or ameliorate the physical, mental, or developmental effects of an illness, condition, injury, or disability.
- The service or benefit will assist the member to achieve or maintain maximum functional capacity in performing daily activities, taking into account both the functional capacity of the member and those functional capacities that are appropriate for members of the same age.

**Nonsteroidal anti-inflammatory drugs (NSAIDs)** — A class of drugs with both analgesic and anti-
inflammatory effects. They include ibuprofen (Advil®) and naproxen (Aleve®) and are available over the counter in the United States. They are used for acute and chronic conditions involving pain and inflammation, such as osteoarthritis, rheumatoid arthritis, low back pain, headache, and toothache. Since gastrointestinal side effects are prominent, they should be avoided by people with dyspepsia or other existing gastrointestinal conditions, such as diarrhea or bleeding.

**Hyaluronate or hyaluronic acid** — A major component of cartilage, the tissue lining most internal joint surfaces.

**Low-level light therapy** — A procedure wherein a low-intensity (infrared or visible red) laser beam is directed onto skin overlying inflamed tissues with the intent of reducing pain and promoting healing.

**Occlusal adjustment** — Grinding the contacting areas of teeth to improve function.

**Orthognathic surgery** — Orthognathic surgical procedures are used to correct improper alignment of upper and lower jaws when such misalignment cannot be corrected by movement of teeth (orthodontics) within existing configurations of bone alone. Jaw misalignment problems can be evidenced as functional (chewing, speech, or swallowing problems; difficulty breathing during sleep [sleep apnea]) or esthetic (open bite; protruding or receding chin).

**References**

**Professional society guidelines/other:**


**Peer-reviewed references**

Aggarwal VR, Lovell K, Peters S, Javidi H, Joughin A, Goldthorpe J. Psychosocial interventions for the


Wright EF, North SL. Management and treatment of temporomandibular disorders: a clinical

Zongdao, S, Chunlan G, Awad, M. Hyaluronate for temporomandibular joint disorders. Cochrane 

Clinical trials:

Reviews in the evidence table (pages 3 – 5) cover trials published through 2012.

CMS National Coverage Determinations (NCDs):

No NCDs identified as of the writing of this policy.

Local Coverage Determinations (LCDs):

No LCDs identified as of the writing of this policy.

Commonly submitted codes

Below are the most commonly submitted codes for the service(s)/item(s) subject to this policy. This is 
not an exhaustive list of codes. Providers are expected to consult the appropriate coding manuals and 
bill accordingly.

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<thead>
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<th>CPT Code</th>
<th>Description</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>20650</td>
<td>Arthrocentesis, aspiration and/or injection of temporomandibular joint or bursa</td>
<td></td>
</tr>
<tr>
<td>21050</td>
<td>Condylectomy, temporomandibular joint</td>
<td></td>
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<tr>
<td>21060</td>
<td>Meniscectomy, partial or complete, temporomandibular joint</td>
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<tr>
<td>21070</td>
<td>Coronoidectomy</td>
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</tr>
<tr>
<td>21073</td>
<td>Manipulation of temporomandibular joint(s), requiring anesthesia</td>
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<tr>
<td>21240</td>
<td>Arthroplasty, temporomandibular joint, with or without autograft</td>
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<tr>
<td>21242</td>
<td>Arthroplasty, temporomandibular joint, with allograft</td>
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<td>21243</td>
<td>Arthroplasty, temporomandibular joint, with prosthetic joint replacement</td>
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<td>21247</td>
<td>Cartilage graft, mandibular condyle</td>
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<td>29800</td>
<td>Arthroscopy, temporomandibular joint, diagnostic, with or without biopsy</td>
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<td>29804</td>
<td>Arthroscopy, temporomandibular joint, surgical</td>
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<tr>
<td>M26.60</td>
<td>Temporomandibular joint disorder, unspecified</td>
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<td>M26.61</td>
<td>Adhesions and ankylosis of temporomandibular joint</td>
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<tr>
<td>M26.62</td>
<td>Arthralgia of temporomandibular joint</td>
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<td>M26.63</td>
<td>Articular disc disorder of temporomandibular joint</td>
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<td>M26.69</td>
<td>Other specified disorders of temporomandibular joint</td>
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<td>HCPCS Level II Code</td>
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