TEMPOROMANDIBULAR JOINT DISORDERS (TMJD)

DEFINITION
TMJD is a collective term comprising a number of clinical problems that involve the masticatory musculature, the TMJ, or both.

ISSUE
It is recognized that the TMJ can sustain injury as a result of work-related trauma. Many TMJ injuries are associated with non-work related disorders. The TMJ is a synovial joint that is subject to the same pathological conditions that affect other joints in the body. Therefore, before a claim is adjudicated, a thorough medical history, dental history, and pre-existing TMJ status assessment must be obtained, as well as a non-occupational (e.g. recreational/hobby/leisure) and occupational history.

WCB-ALBERTA POSITION
Work relationship may be considered if one or more of the following criteria are present:
• The worker sustains a traumatic injury such as whiplash injury, fall, knock, or blow, etc. to the head, neck or TMJ area.
• Damage to the TMJ resulting from iatrogenic sources such as intubation for the administration of general anesthesia, difficult dental treatment (e.g., broken tooth removal or other prolonged dental procedures) if the treatment was required because of compensable injury.

In reference to traumatic injuries and/or iatrogenic injury, TMJ symptoms should manifest within three months of incident.

Clinical Criteria
TMJD are characterized by the following:
• Early manifestations
  - Headaches (temporal, parietal and frontal), pain in and around the TMJ such as jaw or ear tenderness, neck aches, deviation of the jaw during opening and closing movements.
  - Limited head, neck and jaw movements, vertigo, loss of equilibrium, tinnitus may also occur with any or all of the above.
• Early or late manifestations
  - Abnormal bite, difficulty chewing and swallowing, TMJ stiffness, TMJ noise and sore teeth.
• Recommended procedures by a designated general dental practitioner
  - Examine mandibular ROM and note joint noise. Assess response to muscle and joint palpation.
  - Examine head and neck for abnormalities such as muscle spasm, movement disorders, systemic disease, and trigger points.
  - Intraoral exam.
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- Optional
  - Neuro consult if cranial nerve sensory deficits, facial weakness, numbness etc. are present.

Diagnostic criteria

- Recommended imaging
  - Panoramic film or tomogram (if history of recent trauma, painful clicking or advanced degenerative joint disease is suspected).
  - CT if suspicious of a fracture or tumor.
  - Bilateral MRI imaging.

- Recommend against
  - CT for evaluation of internal derangement.
  - Scintigraphy, electronic thermography (little diagnostic or management value), TENS.
  - Refer to policy statement, point #1 (attached).

- Recommended management
  - Management should focus on patient education, decreasing pain, reducing or eliminating the effects of adverse loading and restoring or maintaining normal function of the TMJ.
  - Refer to policy statement, point #2 (attached).

Education

It is vital that the worker understands that he/she plays the most important role towards recovery.

- Recommend education
  - Home care instruction should include resting the masticatory system, habit awareness and modification.

- Optional
  - Behaviour modification. Eliminate habits such as teeth grinding, clenching, nail biting. Encourage eating softer foods, taking smaller bites, and slower chewing.
  - Psychological assessment, stress management and cognitive awareness training or biofeedback if indicated.

Physical methods of treatment

Dental and physical therapy are widely regarded as the leading treatment for TMJD.

- Dental therapy
  - Treatment with intraoral appliance if painful TMJ derangement or bruxism.
  - Oral splints/orthotics. If no improvement after three to four weeks, re-evaluate effectiveness of appliance. Discontinue use of 24-hour splints after three months. Assess WCB responsibility for continued use of night-time splinting after one year.
  - Refer to physio.
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- **Physical therapy**
  Recommended physio:
  - Home program for six weeks.
  - Continuous passive ROM during inflammatory stages (special equipment needed).
  - Treatment of neck pathology.

- **Optional**
  - Ultrasound or laser therapy three times per week for 10–12 treatments.
  - Heat, massage, ice.
  - If limited ROM, strengthening exercises and stretching.

- **Recommend against**
  - Avoid intense isometric exercises when rebuilding strength (can aggravate condition).

**Medical treatment**

- **Drugs**
  - Most pharmacological agents are intended to relieve pain, reduce muscle spasm, or to lower psychic tension.
  - Optional pharmacotherapy: The table below lists some of the more common drug types used; however, the majority of the literature does not provide specific duration recommendations.

<table>
<thead>
<tr>
<th>Agent</th>
<th>Acute/short-term duration</th>
<th>Chronic/long-term duration</th>
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<tbody>
<tr>
<td>NSAIDS</td>
<td>Up to eight weeks maximum, then reassess.</td>
<td>Only on reassessment may be used recurrently.</td>
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<tr>
<td>Mild analgesia (non-narcotic)</td>
<td>As required.</td>
<td>As required.</td>
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<tr>
<td>Skeletal muscle relaxants</td>
<td>Up to two to three weeks maximum.</td>
<td>Not recommended.</td>
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<td>Antidepressants</td>
<td>Not recommended.</td>
<td>Minimum of three to six months.</td>
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<tr>
<td>Anesthetic injection with or without cortisone</td>
<td>Not recommended.</td>
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Note: Most epidemiologic studies show a 60 per cent to 80 per cent success rate after conservative treatment alone. Drug therapy is not the main treatment for chronic TMJD. It is only an adjunctive therapy and should be eliminated or reduced as soon as possible.

- **Recommend against**
  - Narcotic analgesia
  - Anti-anxiety and minor tranquilizers
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- **Occlusion correction**
  - Occlusion correction may be needed as a result of a fracture from a compensable trauma. Treatment of a pre-existing malocclusion is also sometimes required to resolve a work-related injury and may be approved on an individual case basis.
  - Before treatment of dentition is undertaken such as alteration, restoration, or reconstruction, wait until muscles and joints have normalized to allow reassessment.

- **Optional**
  - Occlusal adjustment after repositioning therapy or with orthodontic treatment.
  - Restorative therapy.
  - Orthodontic treatment (is less invasive than restorative therapy).

- **Referral to specialist**
  - Referral to a dental practitioner with training in TMJ, neurologist, orthopedic specialist, physiatrist or psychologist should occur as soon as the need is identified rather than after worker fails to respond to treatment. Extent of WCB responsibility and effectiveness of interventions must be assessed on an individual basis.

**Surgical**

Surgical intervention is a last resort in terms of treatment with all of the following conditions being present before surgery is approved. Moreover, surgical repair should not be expected to prevent further disease.

- Documented TMJ disc displacement or other structural joint disorder with appropriate imaging.
- Positive evidence to suggest that the symptoms and objective findings are a result of disc displacement or other structural disorder(s).
- Pain or dysfunction of such magnitude has to constitute disability to the patient.
- Prior unsuccessful non-surgical treatment that includes orthotic appliance therapy, physical therapy, and behavioural therapy.
- Prior management of bruxism, oral parafunctional habits, other medical and dental conditions, and other contribution factors that will affect the outcome of surgery (Adapted from The American Academy of Oral and Maxillo-facial Surgeons, 1984).

**Fitness to work assessment criteria**

Patients are usually not disabled. Fitness to work should be assessed on an individual basis. Current literature states that disorders of the TMJ are usually a self-limiting condition. Symptoms beyond twelve months despite conservative treatment suggests chronic pain syndrome and requires further evaluation.
Permanent clinical impairment assessment criteria
Permanent clinical impairment is not normally assessed for TMJ. When assessed, impairment is based on the following:
- disk derangement
- decreased range of motion
- degenerative joint disease
- neurological disorders
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Policy statement from the International Association for Dental Research and American Association for Dental Research. (2010)

Temporomandibular disorders (TMD)

The AADR recognized that temporomandibular disorders (TMDs) encompass a group of musculoskeletal and neuromuscular conditions that involve the temporomandibular joints (TMJs), the masticatory muscles, and all associated tissues. The signs and symptoms associated with these disorders are diverse, and may include difficulties with chewing, speaking, and other orofacial functions. They also are frequently associated with acute or persistent pain, and the patients often suffer from other painful disorders (comorbidities). The chronic forms of TMD pain may lead to absence from or impairment of work or social interactions, resulting in an overall reduction in the quality of life.

Based on the evidence from clinical trials as well as experimental and epidemiologic studies:

1. 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 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. Currently, standard medical diagnostic or laboratory tests that are used for evaluating similar orthopedic, rheumatological and neurological disorders may also be utilized when indicated with TMD patients. In addition, various standardized and validated psychometric tests may be used to assess the psychosocial dimensions of each patient’s TMD problem.

2. 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. Because those modalities do not produce irreversible changes, they present much less risk of producing harm. Professional treatment should be augmented with a home care program, in which patients are taught about their disorder and to manage their symptoms.

References


(adopted 1996, revised 2010 and 2016)