

Maxilla to Mandible

Winter 2004

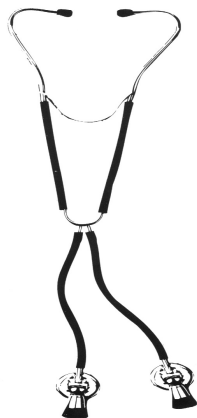
Dr. Gerald B. Wexler, B.Sc., D.D.S.

General Dentistry practice limited to

Temporomandibular Disorders, Orofacial Pain, Oral Reconstruction

2197 Riverside Drive, Suite 105, Ottawa, Ontario K1H 7X3

Phone (613) 731-2149 Fax (613) 731-0558 /www.drgeraldwexler.com



Topics In This Issue

Implants or Nonsurgical Treatment for Painful TMJ Displacement.....	2
Signs and Symptoms of TMD in University Students.....	2
Increasing Vertical Dimension with Mandibular Acrylic Bite Plates.....	2
Reported Bruxism and Stress Experience.....	3
Differences in the Fatigue of Masticatory and Neck Muscles Between Male and Female.....	3
Association of Horizontal and Vertical Overlap with Prevalence of Temporomandibular Disorders.....	3
Internal Joint Disorders in Patients Presenting Disk-Attachment Pain.....	3
Disturbed Jaw Behavior in Whiplash Associated Disorders.....	3
Signs and Symptoms of TMD in Individuals with Normal Occlusion and Malocclusion.....	4
Point of Care.....	4
Meta-Analysis of Surgical Treatments for Temporomandibular Articular Disorders.....	4

Editorial

When evaluating *headache* patients, it is necessary to obtain an adequate history, physical examination as well as a *headache examination*. Trigger points may be present and often are helpful in outlining a treatment regimen. Management of these patients is complex and require pharmacological as well as non-pharmacological approaches. Often behavior, stress management and biofeedback is addressed, and appropriate pharmacological intervention is considered.



Scalp:	Palpation, Inspection
Arteries:	Palpation, Inspection
Dural Sinuses:	Jugular Compression
Meninges:	Nuchal Rigidty
Cervical Muscles:	Palpation
Cervical Vertebra:	Palpation, Range of Motion
Vestibular System:	Nylen-Hallpike (positional head turning)
Occipital Nerve:	Palpation
Supraorbital Nerve:	Palpation

Understanding the comprehensive headache examination will help the practitioner outline an appropriate approach to the patient.

Headache examination should include:

Ears:	External Auditory Meatus
TM Joint:	Palpation, Range of Motion
Teeth:	General Health, Occlusion
Sinuses:	Inspection, Percussion, Palpation
Eyes:	Modified Mueller's Maneuver



*I would like to take this opportunity
to wish everyone a
happy & healthy holiday!!*

Dr. Wexler has 24 years experience in the field of jaw treatment. He is a Diplomate, American Board of Orofacial Pain, member of the American Academy of Craniofacial Pain, American Academy of Orofacial Pain, American Headache Society, and the American Academy of Dental Sleep Medicine. He is a Fellow of Academy of General Dentistry, member of the Canadian and Ontario Dental Association and the Ottawa Dental Society.

Implants or Nonsurgical Treatment for Painful TMJ Displacement

This cross-section study compared jaw function, symptom severity, and the impact of pain in patients with temporary or permanent Silastic or Proplast implants to those treated with nonsurgical rehabilitation or nonimplant surgery. The latter two groups showed better outcomes in all measures than those with implants.

Implants resulted in more pain, greater mandibular dysfunction, and greater subjective impairment. However, removing the implants appeared to have improved the outcomes for these patients. Most of the patients in this study who had implants had them removed. This probably minimized the negative impact of the implants and may explain why the differences in signs and symptoms between the groups were relatively small.

The study also showed no evidence that any of the surgical interventions were superior to nonsurgical treatment. Therefore, rehabilitation treatments should be carefully considered before attempting surgical intervention.

J Oral Maxillofac Surg 60: 1400-1411, 2002

Signs and Symptoms of TMD in University Students

After evaluating 50 university students based on a questionnaire containing an anmnesis

index and a physical examination, 68% were found to have some degree of TMD, with the women four times more affected than men. Signs and symptoms including articular sounds, palpation pain, and occlusal changes were more prevalent in the TMJ patients.

J Oral Rehabil 30: 283-289, 2003

Increasing Vertical Dimension with Mandibular Acrylic Bite Plates

Vertical dimension was increased by using mandibular acrylic bite plates to achieve 2,4,6, and 12 mm elevations. Isometric strength increased to a peak and when vertical dimension was further increased tended to decrease. Both deltoid muscles and cervical flexors achieved maximum strength at the same vertical dimension, indicating that strength increase occurs similarly in different muscle groups.

Because muscle strength increased by up to a third above baseline habitual bite, the practitioner needs to understand the complete interrelationships and the postural muscles of the cervical spine and shoulder girdle.

J Oral Rehabil 30: 283-289, 2003



Reported Bruxism and Stress Experience

Severe stress was the most significant factor associated with frequent bruxism regardless of work category among 1784 employees of a company surveyed for this study. Frequent bruxers were also more likely to use health care services.

Both stress and bruxism were more frequent among women. As stress appears to be a major problem in the workplace, signs such as frequent bruxism should be noted and action taken to prevent stress disorders from becoming worse.

Community Dent Oral Epidemiol 30: 405-408, 2002

Differences in the Fatigue of Masticatory and Neck Muscles Between Male and Female

Cranio-mandibular disorder is more prevalent in females than males. This study showed that this trend may be due to differences in muscle endurance between sexes. Both fatigue and recovery ratios were much higher in females than males, especially for the masseter muscle, which may be due to a difference in muscle thickness and distribution of muscle fiber types.

J. Oral Rehabil 29: 575-582, 2002

Association of Horizontal and Vertical Overlap with Prevalence of Temporomandibular Disorders

In those patients with TMD (involving the muscle, myalgia, and disc displacement with and without reduction), a horizontal overlap of 5 mm or greater was more prevalent than in patients with no symptoms. A similar result was found for the

vertical overlap in all TMD patients, except those with muscle disorders. Thus, patients with higher overlap of either type should be considered at higher risk for TMD.

J Oral Rehabil 29: 599-593, 2002

Internal Joint Disorders in Patients Presenting Disk-Attachment Pain: Prevalence, Characterization, and Severity of Bruxing Behavior

Over 27% of TMD/bruxing patients presented with disk-attachment pain (DAP) compared to less than 4% in the control group. All DAP patients demonstrated disk displacement with reduction and a lower degree of jaw opening. The latter was attributed to the higher pain, protective splinting, and the mechanical obstruction of the joint disk.

DAP patients also had more problems with pain on opening, chewing pain, fatigue on chewing, and jaw deviation to opening, which resulted in 43% switching to a softer diet. Overloading of the joints may be one factor for developing DAP signs and symptoms.

J Craniomandib Prac 21: 17-23, 2003

Disturbed Jaw Behavior in Whiplash Associated Disorders

The effect of neck trauma on natural jaw function was evaluated during self-paced continuous maximal jaw opening and closing movement, paced continuous maximal jaw opening and closing movements at 50 cycles/minute, and unilateral chewing. The magnitudes of head movements were reduced, leading to a smaller ratio

of head and mandibular movement amplitude. During self-paced movements, initial head extensions were also smaller.

A change in temporal relations (disturbed coordination) was also found in whiplash patients, as well as higher cycle-to-cycle variability of head movement amplitudes and coordination of mandibular and head movement time points. However, because the combined movement of the mandibular and the head was similar to that of healthy patients, it appears that the jaw-neck motor system can compensate for the instability in head-neck behavior. These results also show that the mandibular and the head-neck motor systems are closely integrated during jaw function.

J Dent Res 81: 747-751, 2002

Signs and Symptoms of TMD in Individuals with Normal Occlusion and Malocclusion

In this study of patients averaging 23 years in age, there was no significant difference in the tenderness to palpation of all muscles between both groups nor were there any differences in mandibular movements. However, greater TMJ tenderness was found in patients with malocclusion, suggesting that some morphologic changes occurred. These symptoms may increase with age, since the patients were young adults.

J Craniomanib Prac 20: 274-281, 2002

Point of Care

This Point of Care article looked at 4 questions related to TMD. The first discussed when a patient with pain should be referred to a specialist. Although there was no definitive answer, several factors should be considered: the pain cannot be explained by the clinical findings; a suspicion of a psychological or psychiatric condition; persistent

pain, pain in multiple sites, or pain that does not resolve with standard treatment; and lack of explanation for the intensity and severity of the patient's symptoms.

The second question looked at the various causes of toothache, which are not always caused by teeth themselves. Tooth pain can be muscular, neurovascular or neuropathic in nature or the result of systemic medical conditions.

The third question explained the difference between open lock and closed lock. Open lock is when there is excessive mouth opening and the mouth cannot be closed without assistance. Closed lock is characterized by limited mouth opening. Both conditions have typical signs and symptoms.

The last question described the causes of TMJ joint sounds. These include internal derangement, degenerative joint disease, and hypermobility. Other possible causes include disc adherence, pressure changes in the joint, and uneven distribution of joint fluid.

J Canad Dent Assoc 69: 36-40, 2003.

Meta-Analysis of Surgical Treatments for Temporomandibular Articular Disorders

This first meta-analytic evaluation of surgical treatments found that there may be some benefit for patients who do not respond to conventional treatments. Arthrocentesis and arthroscopy appeared to be effective for treating displacement without reduction. However, there clearly is still a need for randomized clinical trials to confirm whether this type of surgery and others really help or not.

J. Oral Maxillofac Surg 61: 3-10, 2003