

Summer 2010

Dear Colleague:

As always, we wish to thank you for your trust and the wonderful patients referred to our office.

This quarters newsletter covers the following topics...

1. Anterior Repositioning Appliance Therapy for TMJ disorders: Specific Symptoms Relieved and Relationship to Disk Status on MRI
2. The Relationship Between Temporomandibular Joint Pathosis and Muscle Tenderness in the Orofacial and Neck/Shoulder Region
3. Mandibular Advancement for Obstructive Sleep Apnea: Dose Effect on Apnea, Long-term Use and Tolerance
4. Symptoms and Signs of Temporomandibular Disorders in Patients with Sudden Sensorineural Hearing Loss



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Regards,

*Dr. James Metz*

## Anterior Repositioning Appliance Therapy for TMJ disorders: Specific Symptoms Relieved and Relationship to Disk Status on MRI

Simmons H.C. , Gibbs S.J.  
*J Tenn Dent Assoc. 2009 Fall;89(4):22-30*

**F**orty-eight consecutive patients seeking treatment in a referral based practice for complex chronic painful temporomandibular joint (TMJ) disease were enrolled in a prospective study to assess specific symptom relief from anterior repositioning appliance (ARA) therapy and the

relationship between specific symptom relief and the status of the TMJ disk. Each patient was assessed on 86 symptoms based upon whether each symptom was present before treatment and absent, better, unchanged or worse after Maximum Medical Improvement (MMI). The most common symptom was occipital cephalgia (94%). The least common symptom was pain and burning of tongue (8%). A profile of a temporomandibular disorder (TMD) patient was developed.

The typical TMD patient has cephalgia, mainly in the occipital, temporal and frontal region, pain upon chewing food, pain upon opening and closing the mouth, TMJ pain, pain in the back of the neck and difficulty chewing food. Before treatment, patients with bilateral displaced disks had more symptoms than those with unilateral displaced disks and the opposite side normal. After MMI the maximum benefit (percent of pretreatment symptoms relieved) was found in patients with normal or recaptured disks. The minimum occurred in patients whose disks did not recapture with therapy. *The authors concluded from their results that ARA therapy improved or eliminated symptoms in all patients in the study.*

## The Relationship Between Temporomandibular Joint Pathosis and Muscle Tenderness in the Orofacial and Neck/Shoulder Region

Inoue E, Maekawa K, et al.  
*Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 2010 Jan;109(1):86-90*

**T**he objective of this study was to investigate the association between TMJ pain/disk pathosis and the muscle tenderness pattern in the orofacial and neck/shoulder region. One hundred seventy-one TMD patients were divided into 4 groups, including group 1: patients with painful unilateral TMJ disk displacement (DD); group 2: patients with painless unilateral TMJ DD; group 3: patients with painless bilateral TMJ DD; and group 4: patients with a bilateral normal TMJ disk position (n = 41). Each subject underwent muscle palpation and the

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## Neck/Shoulder...continued

side-by-side number of muscle tenderness points was combined as the number of muscle tenderness points on each side. Within each group, DD with and without reduction subjects were separated into subgroups and then were analyzed.

Results found that in group 1, the median muscle tenderness points on the side with painful TMJ DD without reduction was significantly higher than on the normal side, whereas the palpation scores for painless DD patients showed no significant difference between the DD and normal sides. *The authors conclude that these results indicated painful disk displacement to possibly be correlated with ipsilateral muscle tenderness.*

## Mandibular Advancement for Obstructive Sleep Apnea: Dose Effect on Apnea, Long-term Use and Tolerance

*Respiration. 2009;76(4):386-92  
Gindre L, Gagnadoux F, et al*

**P**revious studies have documented an effect of mandibular advancement (MA) on pharyngeal airway size and collapsibility. The investigators in this study aimed to describe the course of the apnea-hypopnea index (AHI) and the snoring index (SI) during progressive MA and to evaluate the long-term efficacy, tolerance and usage of MA therapy after progressive MA titration in sleep apnea patients. Sixty-six patients with obstructive sleep apnea syndrome underwent sequential sleep recordings during progressive MA titration. Long-term effectiveness, compliance and side effects of oral appliance (OA) in the titrated position were evaluated by questionnaires.

OA therapy was started at 80% of the maximum MA. Seventy percent of the patients had only one increment in MA with a marked decrease in mean AHI from 36 to 10. In the remaining cases, further increments in MA were associated with a progressive reduction in AHI and an increase in the number of patients responding to treatment. OA in the titrated position resulted in a 70% decrease in AHI, with 54% of patients showing complete responses, 29% partial responses and 17% no response. Daytime sleepiness and quality of life improved, too.

Seventeen months after the start of treatment, 82% of the patients declared that they were still using OA almost all nights. Reported side effects including subjective occlusal changes were frequent but mild. *The authors concluded that improvement in AHI during OA is dependent on the amount of MA. Sequential sleep recordings facilitate MA titration. Long-term MA therapy in the titrated position is effective and well tolerated.*

## Symptoms and Signs of Temporomandibular Disorders in Patients with Sudden Sensorineural Hearing Loss

*Axelsson R, Tullberg M, et al.  
Swed Dent J. 2009;33(3):115-23*

**S**udden sensorineural hearingloss (SSH) usually affects one ear and leads to life long deafness in some cases. There are many theories about the origin of the condition but the etiology and pathophysiology are still unknown. However, tinnitus and vertigo frequently occur in patients with SSH, but are also frequent symptoms reported by patients with temporomandibular disorders (TMD). The authors hypothesized that TMD symptoms and signs are frequent in SSH patients. The objective of this study was therefore to investigate the presence of TMD symptoms and signs in SSH patients compared with healthy individuals. The groups, matched by gender and age, consisted each of 9 females and 6 males. Both groups answered a questionnaire about TMD symptoms and a clinical examination which included maximum voluntary mouth opening, temporomandibular joint sounds, tenderness to digital palpation of the TMJs and selected masticatory muscles, intermaxillary relations and dental occlusion was performed.

The SSH patients reported significantly higher rates of pain in the head and face region and pain during mandibular movements as well as of aural symptoms compared with the control group. There was also a statistically significant difference between the groups in the number of masticatory muscles tender to digital palpation, as well as in some occlusal variables. *In conclusion, this study shows that self-reported symptoms and clinical signs of TMD are more frequent in patients with SSH than in healthy controls.*