

**BS**

# Brazilian Dental Science

Ciência  
Odontológica  
Brasileira



► 4th Interdisciplinary Congress of  
Temporomandibular Dysfunction  
and Orofacial Pain

UNESP – Universidade Estadual Paulista “Julio de Mesquita Filho”  
**Institute of Science and Technology**



**4<sup>th</sup> Interdisciplinary Congress of  
Temporomandibular Dysfunction  
and Orofacial Pain**

*23 e 24 de maio*

**COAT**  
**29 ANOS**  
Centro de Oclusão e Articulação  
Temporomandibular da Faculdade  
de Odontologia de São José dos Campos  
ICT UNESP

2014  
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## WORD OF THE PRESIDENT - PALAVRA DO PRESIDENTE

At the 4<sup>th</sup> Interdisciplinary Congress of Temporomandibular Dysfunction and Orofacial Pain - CIDOF (Congresso Interdisciplinar de Disfunção Temporomandibular e Dor Orofacial) we once again dared to integrate professionals from different areas of health in the same objective: that of sharing knowledge so that patients with TMD and Orofacial Pain would be the ones receiving the greatest benefits. Our dream has been realized by the satisfaction of both speakers and delegates. The high level of lectures and presentations of scientific studies brightened the event and left the taste of "more please". Congress delegates from various parts of Brazil were able to socialize during moments of relaxation at lunches and coffee-breaks.

We hope that this congress has brought satisfaction to all participants, and pride in having taken part in a group of professionals imbued with adding knowledge and thereby diminishing the suffering of many of complain of Orofacial Pain. Our sincere thanks goes to the masters, participants and supporters. We thank the friends who formed the Organizing Commission for sharing the same ideals. Without them, this work would not have been possible. We hope to see you at the 5th CLDOF Congress, in May, 2016.



Prof. Dra. Marta  
Solange Rampani

*No 4<sup>o</sup>. CIDOF (Congresso Interdisciplinar de Disfunção Temporomandibular e Dor Orofacial) ousamos mais uma vez integrar profissionais de várias áreas da saúde num mesmo objetivo, o de compartilhar conhecimento para que os pacientes com DTM e Dor Orofacial fossem os grandes beneficiados. E nosso sonho se realizou com a satisfação de ministradores e congressistas. O alto nível das palestras e a apresentação de trabalhos científicos abrilhantaram o evento deixando um gostinho de "quero mais". Congressistas de várias partes do Brasil puderam se confraternizar nos momentos descontraídos dos almoços e coffees.*

*Esperamos que esse congresso tenha trazido a todos os participantes satisfação e orgulho por fazerem parte de um grupo de profissionais imbuídos em somar conhecimentos e assim diminuir o sofrimento de tantos que se queixam de Dor Orofacial. Sinceros agradecimentos aos mestres, participantes e apoiadores. Agradecimento aos amigos que compuseram a Comissão Organizadora por compartilharem dos mesmos ideais. Sem eles esse trabalho não teria sido possível. Esperamos nos ver no 5<sup>o</sup>. CIDOF, em maio de 2016.*

Prof. Dra. Marta  
Solange Rampani

## Evaluation of temporomandibular joint disc displacement as a risk factor for osteoarthritis (1<sup>st</sup> place)

*Dias IM, Reis LO, Tavares MLF, Devito KL, Tesch RS, Leite ICG*

Rationale: Temporomandibular joint (TMJ) disk displacement is a clinical sign often found in patients with temporomandibular disorder (TMD). Its association with osteoarthritis of the TMJ has been reported. This is a degenerative joint disease and may be associated with pain and functional disability. Objective: To evaluate, by magnetic resonance imaging, the odds ratio of joints with disc displacement presenting osteoarthritis. Material and Method: Taken from patients prescribed for this procedure, 224 TMJ images were evaluated. To calculate the likelihood of the TMJs with disc displacement (with or without reduction) having osteoarthritis, the “odds ratio” (OR) measure of association was used. Results: The joints with anterior disc displacement with reduction (ADDwR) and anterior disc displacement without reduction (ADDwoR) were, respectively, 2.73 and 8.25 times more likely to have osteoarthritis. Osteophytes had a 9 times greater likelihood of occurring in cases of ADDwoR, and in cases of ADDwR a lower odds ratio of their occurrence (OR = 2.96) was observed. Conclusion: It is noteworthy that although the risk of concomitant presence of disc displacement and osteoarthritis has been verified, the latter may occur in isolation, demonstrating that causality cannot be established. However, the significant odds ratio of joints with disc displacement presenting osteoarthritis, especially in cases of ADDwoR, emphasizes the importance of an accurate assessment of changes in disk position, which may be associated with other painful and functional disorders of the TMJ.

## Surface electromyography of the masseter and anterior temporal muscles in patients with myofascial pain submitted to acupuncture. (2<sup>nd</sup> place)

*Maselli A, Brayner R, Amorim JBO, Oliveira W*

Rationale: Neuromuscular disorders that occur in the head and neck region have a multifactorial and complex etiology character, mobilizing several areas of health with the aim of reducing or alleviating the symptomatology and the subsequent balance of stomatognathic system. Objective: The aim of this study was to evaluate by electromyography the influence of acupuncture on the electrical activity of the superficial masseter and anterior temporal muscles. Material and Method: Patient 50 years old, female, affected by myofascial pain with trigger points located in the mentioned muscles, was subjected to an electromyographic evaluation before and after an acupuncture session. The points of needling which were elected: Large Intestine 4 (LI4), Gall Bladder 34 (GB34) and Stomach 44 (ST44). The EMG recordings were obtained according to the protocol suggested by

SENIAM (Surface EMG for non-invasive assessment of muscles) and ISEK (International Society of Eletrophysiology) at rest (R) and maximum voluntary contraction (CMV) in three times: previously, 5 and 15 minutes after acupuncture. Pain intensity was measured using a visual analogic scale (VAS). Results: acupuncture promoted pain relief and changed the electrical profile of the studied muscles, increasing the maximum contractile activity. Conclusions: EMG record showed that acupuncture provided the lowering “muscle tone” at rest and increased muscular activity in maximum voluntary contraction (CMV).

03

## Obtainment of maxillofacial relationship in fixed partial denture through partial articulate and die dental casts (3<sup>rd</sup> place)

*Silva EG, Meirelles LCF, Martinho FC, Gomes APM, Gonçalves SHF, Pagani C, Huhtala MFRL*

Rationale: The transfer of dental cast relationships to articulators is an important step for oral rehabilitation in Fixed Partial Denture. Maxilla-mandible relationship at the casts should be reliable to that observed in the mouth to allow a safe execution of the laboratorial work, with minor intraoral adjustments. Objective: From tray-in impressions, a silicone-based system (htv) was developed fixed to the articulator's bars to make the casts mounting easy by enabling their die and replacement. Material and Method: In 8 clinical cases requiring single crowns, impressions were executed with conventional trays, followed by total and tray-in impressions in both jaws. With the aid of a caliper and size 7 dental wax, the inter-occlusal space was measured in the three conditions evaluated: total casts, tray-in partial casts, and in patients' mouth. Data were submitted to descriptive statistical analysis. Results: The inter-occlusal distances in total casts increased 40% and in tray-in casts 12% in average in comparison with that of the patient's mouth. Conclusion: It can be concluded that this impression technique associated with the direct holding in dental articulator allowed decreasing the inter-occlusal height discrepancy of the prepared tooth in relation to the opposing tooth, decreasing chair time for occlusal adjustments in Fixed Partial Denture.

04

## Thickness and marking quality of different strips used for occlusal contacts registration

*Jóias RP, Ferreira LT, Toledo MFSM, Iasi YSM, Neves ACC, Rode SM*

Rationale: There is a large number of materials available for checking and defining occlusal contacts and carbon paper is the most used. Objective: Evaluate the thickness and the marking quality of different strips used to register occlusal contacts (SROC), and a possible correlation between them.

**Material and Method:** The following SROC were selected: Accufilm II, BK20, BK21, BK22, BK23, BK28 and BK31. The mean thickness was measured in three points of the SROC with an electronic measuring device (TESA). For producing the marks the composite resin specimens were performed on an universal testing machine (Versat 2000) with 40kgf at 1.0 mm/min speed. The marks images were photographed by a stereoscopic microscope (Stemi SV11) and analyzed by 550-Leica Qwin®. **Results:** Values ( $\mu\text{m}$ ) found in the 1st and 2nd thickness measurements were, respectively: Accufilm II: 16.4 and 14.2; BK20: 10.0 and 8.1; BK21: 9.5 and 8.0; BK22: 9.7 and 8.7; BK23: 9.8 and 7.9; BK28: 12.8 and 10.0; and BK31: 8.4 and 8.0. The mean ( $\text{mm}^2$ ) found in the mark areas were: Accufilm II: 0.078, BK20: 0.035, BK21: 0.045, BK22: 0.012, BK23: 0.022, BK28: 0.024 and BK31: 0.024. The results were submitted to the Kruskal Wallis test ( $p < 0.05$ ) and Pearson's correlation. **Conclusion:** Only in the 2nd measurement the SROC thickness observed was similar to the value indicated by the manufacturers; the Accufilm II and the BK28 strips showed the more accurate markings; and no correlation was found between the thickness and the marking area.

## Frequency of diagnosis of temporomandibular disorder in patients attended by the faculty dentistry of universidade federal de juiz de fora

*Reis LO, Dias IM, Guimarães JP, Leite ICG*

**Rationale:** Epidemiological studies show that the prevalence of temporomandibular disorders (TMD) in the population is high, ranging from 9.8 to 74%, it is extremely important assessment and diagnosis of this disorder by dentists. **Objective:** To evaluate the prevalence of TMD in patients in care at the Faculty Dentistry of the Federal University of Juiz de Fora - MG (FO / UFJF), associated with age, gender and clinical group. **Material and Methods:** 102 patients of both sexes were selected in attendance at FO / UFJF in clinical Periodontics I and II, Partial Denture (PD), Denture (PT), Secondary Care Clinic I and II aged from 18 years old. Patients were submitted to axis I of the RDC / TMD. **Results:** Of the total sample, 53.9% had a diagnosis of TMD. Of these, 67.3% were female and 52.7% were between 41-60 years. The most prevalent diagnosis of TMD was disc displacement with reduction corresponding to 18.6% of the population. PD and PT clinics were, in that order, those who had more patients with diagnoses of TMD, they represent, respectively, 27.3% and 25.5% of the sample with TMD. **Conclusion:** A considerable proportion of patients who had at least one sign or symptom of TMD, the evaluated sample, shows how relevant is the evaluation of the masticatory apparatus as a whole, where teeth, muscles and temporomandibular joints, are viewed with the same level functional importance, regardless of which treatment the patient will receive.

## Relation between different diagnostic subgroups of temporomandibular disorders and self-reported headaches

Tavares MLF, Tesch R, Senechal GG

Rationale: Epidemiological studies of headaches and temporomandibular disorders (TMD) point to a close relationship, at least in some of the clinical manifestations of these painful conditions. Objective: The aim of this study was to apply a standardized questionnaire for TMD to analyse an eventual relationship between self-reported headaches and the two major isolated subgroups of TMD, being muscular and articular. Material and Method: 169 patients seeking for treatment at TMD and Orofacial Pain Clinic at Petrópolis Medicine School and that consecutively full filled the Research Diagnostic Criteria for Temporomandibular Disorders (RDC/TMD) were included. The significance of the differences in the prevalence of self-reported headache between the two subgroups was assessed by q-square statistic test using stata 9.0 software. Results: Muscular TMD patients (n = 77) had significantly (p < 0.005) higher frequency of self-reported headaches (90,9%) compared to the frequency observed (70,7%) in articular TMD patients (n = 41). Conclusion: It was possible to identify a clear relationship between TMD and self-reported headaches with higher frequency in the muscular subgroup. These findings indicate a overlap between these painful conditions which underlying pathophysiological mechanisms need further.

## Evaluation of therapeutic effects of stabilizing plate in different types of temporomandibular disorder - painful evolution of patients attended in a reference center

Cordeiro PCF, Dias GM, Reis LO, Bonato LL, Guimarães JP

Rationale: In an attempt to control and prevent the progression of Temporomandibular Disorders (TMD), stabilizing plate became immediate treatment offered to patients, although large interindividual variation exists. Objective: Evaluation of the symptomatic outcome of patients of various types of TMD treated exclusively with stabilizing plate for a period of three months patients comparing painful muscle and joint symptoms, and clinical aspects, both before and after treatment. Material and Method: A retrospective study assessing 628 records the last ten years (2004-2013) of patients treated in Serviço de Diagnóstico e Orientação a pacientes com Desordem Temporomandibular (Serviço ATM) - Faculty of Dentistry/UFJF was conducted. The sample was divided into subgroups distinct diagnoses, in which the evaluation of symptomatic progression of patients through the analysis of pain scores, measuring the amplitude of mouth opening and the presence of joint sounds was performed. Data were obtained in early stages and after treatment with stabilizing plate. Results: The group of individuals diagnosed with muscular disorder (47,45%) and those with multiple diagnoses (3,34%) had a higher prevalence



of chronic orofacial pain (90,26 % and 95,23%). The remission of painful symptoms was visible in groups accompanied by increased amplitude of mouth opening. Additional way, we obtained reduction joint sounds in patients with intracapsular and degenerative disorders, respectively. Conclusion: The stabilizing plate has shown efficacy in various types of temporomandibular disorders evaluated. However, in an attempt to encompass all etiological factors in therapy, emphasizes the importance of multidisciplinary therapies for the treatment of temporomandibular disorders.

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