

26<sup>th</sup> Euro Congress and Expo on

# Dental & Oral Health

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### Relationship between the centric relation and maximum intercuspation discrepancy in patients with signs and symptoms of temporomandibular dysfunction, before and after splint therapy

**Aim:** The aim of this study was to evaluate the effect of stabilization splint therapy on TMD and to determine if there is a relationship between the condylar axis position as determined by the occlusion and signs and symptoms of TMD, using the condylar position indicator (CPI III).

**Subjects and Method:** A sample consisted of 35 untreated subjects with mild, moderate or severe symptoms of TMD. The centric relation bite registration technique developed by Roth was used. All subjects underwent stabilization splint therapy during average period of 6 months, for the stabilization of temporomandibular condyles in centric relation (CR). The comparison was based on written patient histories, clinical exams, and CPI measurements. The condylar displacements for 35 subjects were measured in vertical, sagittal and transversal components from mounted models using CPI III system. Obtained data was evaluated using Wilcoxon signed-rank test.

**Results:** When the pretreatment and posttreatment examination scores were compared, an 80% reduction in symptoms was found after treatment. A high correlation ( $p < .001$ ) between signs and symptoms of TMD and CPI values was documented.

**Conclusions:** After stabilization splint therapy, a stable centric condylar position was obtained, as a predisposition for correct orthodontic treatment planning. In patients with signs and symptoms of TMD, and significant discrepancy between the centric relation and maximum intercuspation, stabilization splint therapy is highly recommended prior to treatment with fixed orthodontic appliances.

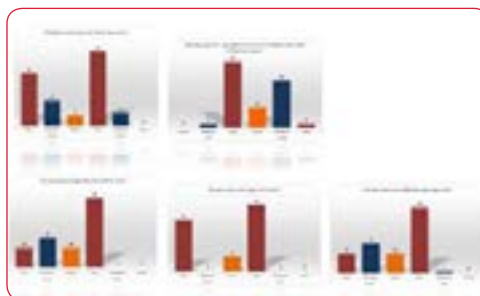


Fig. Anamnestic comparison pre and post splint.

### Recent Publications

1. Demirovic K, Slaj M, Spalj S, Slaj M, Kobaslija S (2018) Comparison of shear bond strength of orthodontic brackets using direct and indirect bonding methods *in vitro* and *in vivo*. *Acta Inform Med* 26(2):120-125.
2. Demirovic K, Ovsenik M (2014) Relationship between the centric relation - centric occlusion discrepancy and signs and symptoms of temporomandibular dysfunction, as measured by the condylar position indicator instrument, and effect of splint therapy on temporomandibular dysfunction. *South Eur J Orthod Dentofac Res* 1:31.

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3. Demirovic K, Slaj M, Kobaslija S (2011) Evaluation of shear bond strength of orthodontic brackets using direct and indirect bonding technique. Eur J Orthod – online edition.
4. Demirovic D, Demirovic K (2008) Simultaneous retraction and intrusion of upper incisors with segmented archwire approach. Eur J Orthod - online edition.

## Biography

Kenan Demirovic graduate from School of Dentistry, University of Marmara in Istanbul, Turkey. He completed his master's degree in orthodontics at University of Sarajevo in the year 2010. He is an active member of European Orthodontic Society. He was a Speaker at congresses of European Orthodontic Society, Croatian Orthodontic Society, Balkan Stomatological Society and ADOH conference, Dubai. Currently, he is an Orthodontist at Private practice for dentofacial orthopedics and orthodontics, Sarajevo - Bosnia and Herzegovina. His main areas of research include temporomandibular disorders and its relation to orthodontic cases, orthodontic mechanics and segmented arch wire techniques.

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