

58.

The Relation Between Occlusion and Temporomandibular Joint Sounds

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The etiology of the occurrence of sounds and the role of occlusion, has not yet been entirely clarified.

OBJECTIVE OF INVESTIGATION: The objective of this investigation was to determine the effect of occlusal relationships on the occurrence of sounds in the TMJ.

METHODS: A group of 100 subjects, aged from 24 to 52 years ($X=35.03$) was examined. The existence of sounds was registered by means of a clinical examination and auscultation by stethoscope and classified according to character in click or crepitation. The number of teeth, the number of teeth in occlusion, type of occlusion (canine guided occlusion, group function and balanced occlusion) was determined by clinical examination. Overbite and overjet were measured. RCP position was determined by chin-point technique, and fixing by Lucia-jig. The sliding from RCP to IKP position was determined in the anteroposterior, vertical and latero-lateral direction. A precise calliper was used to measure movement.

RESULTS: 29% of the subjects had a clinically determined sound, in 27% it was click, and in 2% it was crepitation. The Pearson test analysis showed statistically significant difference ($p<0.05$) only for the occurrence of crepitation in relation to the number of teeth, number of teeth in occlusion and overjet. The same was confirmed by analysis of variance (ANOVA).

CONCLUSION: Overjet, difference in the position of RCP-ICP sliding from RCP into ICP, and type of occlusion, i.e. mediotrusion interference, do not have an influence on the occurrence of sound in the TMJ. A reduction in the number of teeth and the number of teeth in occlusion, have an influence on the occurrence.

59.

Electromyograph Parameters in The dysfunctional Patient with Open Bite

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INTRODUCTION: Open bite is an occlusal problem that appears in 0.5% of the population, and is more frequent in women.

There is correlation between open bite and dysfunctional syndrome with TMJ disorders.

AIM OF THE STUDY: We attempted to analyze muscular parameters in patients with open bite treated with an occlusal splint by EMG recordings.

MATERIAL AND METHODS: Myotronics K6 electromyograph can provide information in the following situations: maximum force bite, lateral and protrusion movements, with and without an occlusal splint.

RESULTS: In maximum force bite with the occlusal splint more activity was found in the elevator muscles with a lack of dygastric activity.

There was less EMG activity in protrusive and lateral movements with occlusal splint.

CONCLUSION: With better support between the dental arches (occlusal splint) more activity was obtained in the elevators when biting, and when interferences were eliminated activity in the contralateral muscles was reduced.

60.

Influence of the Type of Occlusion on the Occurrence of Noncarious Cervical Lesion

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INTRODUCTION: The term 'noncarious cervical lesions' (NCCL) stands to indicate the loss of hard tissue

at the tooth cervix. This loss can be caused by different physical and/or chemical agents. One of the causes of NCCL can be occlusal stress, which lead to toothflexure and loss of enamel at the cervical area. In different types of occlusion there are numerous lateral eccentric movements that can cause NCCL.

The purpose of this study was to determine differences in the frequency of NCCLs between patients with different occlusal conception.

METHODS AND RESULTS: The study involved 815 persons over the age of 10 years, chosen at random. The cervical third of the vestibular surface of the upper and lower teeth was clinically examined. NCCLs were measured with plus and minus. The type of occlusal conception was established by clinical examination and classified as canine guidance, group function and combined occlusion.

The results showed that the NCCLs were equally participate in both sexes, and in all three types of occlusion (Chi-square values were 1.96, $df=2$, $p>0.05$).

CONCLUSION: The results of the study indicate that there is no statistically significant difference in the frequency of NCCLs between patients with different occlusal.

61. The EMG Activity of Masticatory Muscles During Different Chewing Tasks

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Mastication is a highly coordinated neuromuscular function that involves fast effective movements of the jaw and continuous modulation of muscle force. To understand the relationship between muscles during mastication it is necessary to know the position and direction of movement of the mandible.

MATERIAL AND METHODS: Twenty-four young healthy adults, age ranged 17 to 27, participated in this study. They were chosen among dental students of School of Dental Medicine University in Zagreb and had to be free of sign and symptoms of TMD.

Surface EMG recordings were obtained from left and right anterior temporal muscle, left and right masseter

muscle and from left and right digastric muscle on the 8 channel PC based EMGA-1, apparatus for simultaneous recording of myoelectrical activity (6 differential EMG channels, input impedance 100 MW, CMRR> 95 dB at 50 Hz, bandwidth 2 Hz-1 kHz, programmable input sensitivity from 100mVpp to 20 mVpp, an 8 bit resolution A/D conversion, 2 kHz sampling rate) - occlusal sounds (2 audio channels), specially designed and developed for the purpose of kinesiological examinations of stomatognathic system's function. The disc electrodes (Ag/AgCl, diameter 10 mm) were placed 2 cm apart in the main direction of the muscle fibres.

RESULTS:

1. Main effect of factor "functional movement" was significant at $p<0.01$, and values were the highest for gum chewing, and the lowest for empty chewing except for digastric muscle which had lowest values at continuous isometric contraction.
2. Main effect of factor "muscles" was significant at $p<0.01$ for all muscles involved, values were similar for the same muscles on left and right side.
3. Main effect of factor "time" was statistically significant $p<0.05$ for all cases showing decreasing trends except in last minute during functional movements.
4. Interactions between factors "functional movement" and "time" were present at significance $p<0.01$.

62. Electromyographic Evaluation of the Influence of Denture Adhesive on Retention and Stability of Complete Dentures

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Improving retention and stability of complete dentures is of considerable interest in prosthetic dentistry. Approaches to this problem over the years have included overdentures, implants and denture adhesives. Although