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## Registration and Measurement of Right and Left Mediotrusion by using the Method of Electronic Axiography

**Kraljević S, Pandurić J, Badel T, Dulčić N.**

*Department of Prosthodontics, School of Dental Medicine University of Zagreb, Croatia*

**PURPOSE.** The aim of this study was to register and measure lower jaw movements and to analyse the measured length of maximal right and left mediotrusion movement in asymptomatic and symptomatic subjects.

**MATERIALS AND METHODS.** A symptomatic group consisted of 51 subjects with temporomandibular disorders. A control group consisted of 43 subjects without signs and symptoms of temporomandibular joint disorders. In the symptomatic group of subjects signs and symptoms of temporomandibular disorders were crepitation, bruxism, sensitivity, pain in the temporomandibular joint and muscles, as well as pain and sensitivity in the region surround and anterior to the ear, together with difficulties while opening the mouth. Each subject was registered by the GAMMA CADIAX system for registration of positions and movement of the lower jaw, which consist of a conventional SAM axiograph, electronic device for drawing of curves with a computer.

**RESULTS.** No significant differences were found between the groups of subject for the measured variables.

**CONCLUSION.** The results of the length of the mandibular and condyle movements are important, although unreliable indicators of temporomandibular joint function. Description analysis of a graphic recording of mandibular and TMJ movement remains a precise evaluation method for determination of TMJ dysfunction.

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## Clinical Assessment of "All in One" Framework for Partial Implant - Supported Prosthesis

**Celemín Viñuela A, Martínez Vázquez de Parga J, Del Rio Highsmith J, Del Rio Highsmith L.**

*Department of Prosthodontics, Faculty of Dentistry, Complutense University, Madrid, Spain*

**INTRODUCTION:** Restoration by implant-supported prosthesis seems to be a current option in the treatment of partially edentulous patients. Its success depends on the passive fit of the framework. Searching for new manufacturing materials and techniques to solve these problems, dental companies, combining clinical and experimental research, offer different solutions, such as Nobel Biocare, the "all in one" system, which is a framework designed by CAD/CAM.

**AIM OF PRESENTATION:** Clinical and radiographical assessment of the passive fit of the titanium framework computer designed for partially edentulous patients. The case presented is that of an adult patient, partially edentulous. The definite impression taking was carried out, using the IRStechnique (Implant Reposition Splint), to obtain the working cast. The dental laboratory performed the setting of artificial teeth in wax and acrylic framework. Placed inside the patient's mouth for verification, and computer scanned to digitize its design. After data processing, titanium milling was performed.

The passive fit was checked clinically by the Sheffield test. Subsequently, radiographs were taken with the parallel technique to check the adjustment. Using the patient's subjective assessment any type of pain or symptoms indicating the existence of tension between the framework and implants is recorded. The procedure ended with the application of a ceramic coating of Triceram.

**CONCLUSION:** Good results of such frameworks are predictable at functional level, but more investigations are necessary to ensure that their use is a guideline for building partial frameworks.

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## Clinical Evaluation of the Osteointegration

**Baños MA, Martínez JA.**

*Department of Prosthodontics, Faculty of Dentistry, Complutense University, Madrid, Spain*

**INTRODUCTION:** The treatment of the complete or partially edentulous patient with a prosthesis supported by dental implants is a procedure with high predictability. The most important factor is the osteointegration of the implant.

**AIM OF PRESENTATION:** Analysis of the clinical methods of evaluation of the osteointegration.

**DESCRIPTION:** The method most commonly used is the intraoral radiograph that allows us to study the level of the bone and to identify radiolucencies around the

implant. This technique will be modified by the quality of the X-ray image, the range of the optical system of humans, subjective interpretation and the problem of quantifying. The X-ray is not enough.

Digital X-ray systems provide some advantages such as lower exposure to radiation, the possibility of modifying images, measuring lengths and angles, and densitometric studies.

The resonance frequency analysis system (Osstell) is a technique that evaluates the stability of the interface bone-implant. Used when connecting the abutments, it shows us the degree of osseointegration (protocols of early loading).

## 70. Research into the Retention Force of Electroformed Secondary Bar

**Hayashi S<sup>1</sup>, Shibuya K<sup>2</sup>, Toyoda M<sup>1</sup>, Weber H.<sup>3</sup>**

<sup>1</sup>*Department of Prosthodontics, Kanagawa dental College, Yokosuka, Japan*

<sup>2</sup>*Dental Laboratory, Kanagawa Dental College, Yokosuka, Japan*

<sup>3</sup>*Department of Prosthodontics, University of Tübingen, Germany*

**INTRODUCTION:** Electroformed metals are known to present good adaptability and biocompatibilities, but it is not yet known if the retention force of the electroformed secondary bar frame (ESBF) can endure long use. To clarify this point, the retention force between the primary cast bar and ESBF were measured.

**MATERIAL AND METHODS:** An edentulous model was prepared and four implants (Frialit 2) were embedded. The fabrication of the primary bar was cast from pure titanium. We coated the completed titanium bar with silver lacquer and applied 0.3mm thick electrodeposite. The ESBF was attached to the cast titanium primary bar, cyclical tests performed for 15000 cycles and the retention force measured each time. The retention forces were measured in 37°C distilled water .

**RESULTS:** The retention force value dropped as the number of reseating increased. It was 22N after 1000, 19N after 5000, 18N after 10000 and 16N after 15000 cycles. The hysteresis curve indicated that the resistance during cyclical testing was constant and stable up until the completion of 15000 cycles.

**CONCLUSION:** The results confirmed that the retention force dropped gradually as the number of cycles increased, but that the stress imposed on the implants

due to attaching and removal was low. This may be due to the excellent adaptation accuracy. In the case when repetition of attaching and removing for a long period is considered, we need an attachment to enable the provision of a stable retention force Supported by Wieland Edelmetalle.

## 71. Implanto-Prosthetic Rehabilitation of the Mandible by Means of Two Implants

**Kobler P<sup>1</sup>, Pandurić J<sup>2</sup>, Knežević G<sup>1</sup>, Macan D<sup>1</sup>, Katanec D<sup>1</sup>, Jerolimov V<sup>2</sup>, Košanski M.<sup>3</sup>**

<sup>1</sup>*Department of Oral Surgery, School of Dental Medicine University of Zagreb*

<sup>2</sup>*Department of Prosthodontics, School of Dental Medicine University of Zagreb, Croatia*

<sup>3</sup>*Private practice, Zagreb, Croatia*

Edentulousness is a considerable problem in Croatia. So far prevention has not become the most important part of the dental profession. On the other hand, poor medical knowledge, reduced rights concerning health insurance costs as well as an increasing number of impoverished people in Croatia has resulted in postponed prosthetic rehabilitation. For the above mentioned reasons the Croatian people suffer from premature loss of their teeth. Also lower jaw atrophy occurs, which makes prosthetic rehabilitation even more difficult to achieve.

In spite of some disadvantages, the double-implant borne prosthetic suprastructure has proved to be a simple and good solution to the patient's problem, mainly because it is cost-effective. This particularly applies to Croatian patients.

Over the last five years we have placed double-implants in 26 patients, in the anterior region of the mandible. The implants were placed in the region of the lower canine or slightly more mesially. Severe atrophy was determined in 13 patients (50%) which impeded their complete denture wearing even before the implant placement started. However, we made up for the loss in two patients by placing the implants again. This time we placed them slightly more mesially.

We made one borne implant complete denture for one patient because the examination revealed severe atrophy in one segment of his mandible. In addition since the osseointegration prognosis for this patient was questionable we decided against any additional surgical treatment. Since the belts of the attached gingiva in our patients were