

adhere to a concept focusing on occlusal factors in diagnosis and treatment of TMD. This controversy has sometimes become very dramatic, especially in the USA. It is well established that simple reversible therapy is efficient for helping a majority of TMD patients. Even if most studies have failed to find any close correlation between occlusal factors and TMD signs and symptoms, occlusion cannot be neglected as it plays an important role for comfort and function of the masticatory system. There is an obvious need for continuing research on the relationship between the occlusion and TMD using strict, evidence-based study methods in order to improve patient management. A search of the current literature on TMD will be presented.

## 4.

### Ceramic Reconstruction (CEREC<sup>®</sup>) - an Ingenious Concept in Restorative Dentistry?

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CEREC is a computerized method to produce ceramic reconstructions chairside. It had been developed in the Eighties by Professor Dr.med.dent. Werner H. Mörmann und Dr. sc. techn. El. Ing Marco Brandestini at the University of Zürich in Switzerland. The most actual version in the CEREC-Series is CEREC 3. It is a robot in which CAD/CAM-techniques are applied and prefabricated dental materials (ceramics and polymers) are used. Target group are primarily dentists; since CEREC InLab is on the market dental technicians also.

According to the general CEREC-principle, an optical impression is used as "worksheet" to construct every restoration in/on any single tooth - from a simple class I- or class V-restoration to any partial or full crown - in a very simple but sophisticated manner: The CEREC-user only has to design the so-called "bottom line", all other constructions are generated automatically. Besides that every modification may be introduced manually. The milling process is fully automatic. The restorations are adapted to the tooth structures by modern adhesive techniques.

From survival analyses it could be shown, for example by the study of Reis and Walther (2000), that from 1,010 inlays which were applied to the posterior teeth in 299 patients in a routine dental practice, after 9 -12 years the probability of success (calculated by Kaplan-Meier Analysis) decreased to 90% after 10 years ( $s = .018$ ) and 85% after 11.8 years with no further loss until the 12-year

termination point. Measuring parameter as inlay fracture, cusp fracture, new proximal lesion, recurrent caries, persistent hypersensitivity, endodontic complications, prosthetic and unknown causes (with replacement alio loco) respectively showed no significant difference in clinical success between maxillary and mandibular teeth, neither between the sizes and the outlines of the restoration. However, premolars rated better than molars, vital teeth better than non-vital teeth. The application of dental adhesive techniques increased the probability of success. Only 81 (8%) failures were recorded, mainly due to fractures of the ceramic and tooth structure (50%).

In summary, CEREC using simple but sophisticated hard- and software in combination with trustworthy modern dental materials is an ingenious and clinical reliable concept in restorative dentistry with the potency of an enormous impact at high quality dentistry and dental education. Indeed, CEREC is an ingenious concept in restorative dentistry.

## 5.

### Fiber-Reinforced Composites - - New Alternatives for Fixed Prosthodontics

**Vallittu PK.**

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Development of oral biomaterials has been focused on composites of various kinds. From the prosthodontic point of view, the most promising composites are fibre-reinforced composites (FRC). The use of FRCs in prosthodontics is rapidly growing at the moment and their applications are in FRC full coverage crown bridges, surface retained bridges, inlay retained bridges and in root canal posts. Interestingly, the currently available data of biomechanics and preliminary clinical findings suggest that combination of retentive / adhesive elements of different kind of bridges can now be combined to a single FRC bridge/restoration. By this, odontological and subjective needs of the patient toward fixed prosthetic therapy can better be taken into consideration. This treatment philosophy is called "the dynamic treatment approach". Successful use of FRC in the dynamic treatment approach put some demands on FRC material. The use of FRC should be easy to use for dental technician and for dentist, the adhesional behaviour of FRC to composite resin luting cement should be good enough, and finally, the biomechanical properties of the FRC should correspond the needs of the masticatory system. Recent development in

the field of dental FRC materials have been able to resolve many of the aforementioned questions. These aspects with clinical examples will be demonstrated in the lecture.

## 6.

### When and How Shall I Plan Dental and Prosthetic Treatment for the Elderly?

**Arvidson-Fyrberg K.**

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The planning of dental and prosthetic treatment for the elderly requires knowledge of the patient's oral and general health status as well as social orientation. As for most people, loss of teeth is associated with reduced quality of life. Thus, it must be of primary importance to prevent oral diseases leading to edentulism. However, due to medical, economic and social reasons, a conventional approach may not always be optimal.

Scientific investigations and clinical experience confirm that treatment with implant-supported prosthesis is equally successful among the old as among younger patients. Good esthetics, chewing comfort and a minimum of future problems can be obtained by a treatment strategy based on timely intervention with implant-supported prosthesis.

## 7.

### Gerodontology - Status and New Challenges

**Holm-Pedersen P.**

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Changing demographics, which include a dramatic increase in the number of old and very old individuals have great implications for the health care professions. Further, the rates of edentulousness and tooth loss are rapidly declining. Consequently, the number of teeth at risk of developing unfavorable oral diseases is growing. As patients live longer with significant chronic systemic disease, and as more older people seek dental care, practitioners will increasingly encounter medically and func-

tionally compromised individuals. Many recent studies have shown that systemic diseases, their treatments, and functional impairments have an impact on oral health and function and consequently on the quality of life of an older person. However, the interplay between general health and oral health is a two-way relationship. Oral infections, in particular periodontal disease, give rise to pathogens, which can become blood born or aspirated into the lungs, and which may cause serious, even life-threatening consequences. An understanding of the interplay between general and oral health is imperative, if oral health care is to have a reasonable chance of success. One of the major challenges facing the dental profession today is maintaining oral health and function into the oldest-old years, especially in those elderly, who do not age successfully. Age alone, however, should have no influence on the decision to treat or not to treat.

## 8.

### The Role of Prosthetic Dentistry in Mass Disaster Identification

**Vermeylen Y.**

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Dentistry plays a very important role in the identification of the victims in mass disasters. More than 50% of the identification work is concluded by dental means and investigation. Prosthetic work, and especially full rehabilitations with dental implants, crowns and bridges, is very valuable for dental identification.

The biggest problems, however, are full upper and lower dentures. Marking of dentures would be a very valuable aid in identification procedures and very easy to do at a low cost. The legal aspects of identification will be explained, as well as the role of the forensic odontologist in the identification team.

## 9.

### The Significance of Prosthodontic Appliances in Identification of Human Remains in Croatia

**Brkić H.**

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