

**MATERIAL AND METHODS:** The tooth germs were gently removed from mice under the microscope by means of micropreparation techniques. All of the germs were embedded in agar, positioned on Millipore Filters and cultivated over 14 and 21 days in a chemically defined medium. For microscopic examination the germs were fixed, cut and stained with Giemsa-Romanowski and HE.

**RESULTS:** A cell layer on the Millipore Filters formed, which originated either from dental pulp or from the outer enamel epithelium. Cells from the cell periphery appeared oblong with broad intermembranous areas. In the cell center the closely closed-up cells exhibited cubic cell form.

After 14 days the cell nucleus appeared round and light blue after staining with Giemsa-Romanowski. In contrast, after 21 days a dark stained nucleoplasm was identified in the cells.

**CONCLUSION:** The results agree with previous studies on which tooth germs can be cultivated successfully *in vitro*. After the first observations the tooth germs did not show temporally co-ordinated growth and no differentiation as under *in vivo* conditions. A substantial reason for this lies in the lack of knowledge of the accurate environmental conditions necessary *in vitro*. With the cell layer on the Millipore Filters described here, the possibility of further investigations of cell differentiation exists.

## 79. Temporary Composite Bonding Fixed Bridges

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Esthetic composite bonding technique has had a great impact in the area of fixed prosthodontics, following the conservative techniques that are proving mainly successful in the replacing of a single tooth.

In this way single anterior missing tooth are usually replaced.

Further developments included efforts to increase the resistance of the bonding materials to cohesive fracture by the use of class III type preparations at the proximal surfaces of abutment teeth.

With the current availability of visible - light - cured composite materials, these can be used efficiently to fabricate any of the all - resin bonded protheses.

To use a bonded pontic in such applications a number of conditions must be met. First, the patient must understand the limitation of the restorations: lack of strength, and inability to function as a natural tooth. Second, the patient's occlusion must be favorable: positive posterior occlusal support, absence of parafunctional habits and eccentric pattern of movement that permits the sharing of guidance responsibility by teeth not involved in the units of the bridge, particularly with respect to protrusive and lateral protrusive mandibular movements.

The materials and techniques required to prepare and insert an all - resin bonded bridge are described and illustrated in the paper.

## 80. Two Years Retrospective Study of Metalceramic Crowns with Nickelchromium Alloy

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Crown and bridge stability in the human mouth is not easy to evaluate. The structure and quality of crown materials are directly connected with the hardness and composition of the surface.

The aim of the study was to evaluate the long-term stability of 52 crowns (19 patients) made from ceramic material (Vita Omega, Vita) and nickelchromium ceramic bonding metal alloy (Wiron, Bego) in clinical practice. In accordance with the US Public Health Service System changes in occlusal anatomy, occlusal relief, marginal adaptation, material break age, changes of shape and color, were checked. Another objective of the study was to observe the two year clinical progress of attrition of crowns. Replica casts (Epoxy-die (Ivoclar) were prepared. A scanning electron microscope (JEOL ; JMS-5500 LV (JEOL) and standard model (Ivoclar - Williams) were used to evaluate the quality of restoration.

No changes in the shape and color were found, post-op sensitivity was present in 1.9 %, and caries presence has been detected in 1.9 %. After two years the labial or buccal coronal margin was recorded as being at the level of the adjacent gingiva for 34.6 % of the 52 crowns placed and above the gingival margin for 65.4% of the crowns. Marginal adaptation was rated as contiguous with the existing anatomic form in 71.2 %. Gingival health varied from 0 to 2 CPITN index.