

The Restoration of Missing Teeth used by Bio Pin Bridge

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The current prosthodontic trend is a conservative approach to preparing dental prostheses, by minimizing the amount of sound tooth tissue removal during preparation while maintaining functional and aesthetic aspects of the treatment.

Generally, restoration of a missing tooth by porcelain fused to metal (PFM) fixed partial denture requires the removal of the occlusal and axial surfaces of sound adjacent teeth, replacing missing tooth structure with metal and tooth colored dental ceramics or acrylic resins. However, these methods involve of large amounts of sound tooth structure removal and because of the possibility of pulp exposure during the preparation, the administration of local anesthetics may be indicated prior to treatment.

The recently introduced adhesive method requires only minimal loss of sound tooth structure during preparation, with the margins of the restoration located coronally to the gingival margin, and finally the technique results in an aesthetically pleasing, natural appearance. The main disadvantage to the aforementioned technique is that it is contraindicated in areas of high occlusal forces, such as molars, that might compromise the integrity of the adhesive bond, resulting in premature failure of the prosthesis.

The use of dental prostheses utilizing the Bio Pin offer a conservative approach to dental

prosthetics possessing several advantages including minimizing the loss of sound tooth structure, painless abutment preparation not requiring local anesthetic administration, the use of biocompatible materials, short chair time, cost effectiveness, and an aesthetic and natural appearance.

The procedure involved in the preparation of a Bio Pin restorative in the molars is described as follows. First, the adjacent abutment teeth are prepared by preparing an MO or DO inlay cavity. The pin holes, 1mm in diameter and 0.7-1.7mm deep, are prepared at an angle approximately 45 from the occlusal plane. Next, the prepared Bio Pin bridge is approximated with the corresponding pin holes of the abutment preparation. Finally, the Bio Pin bridge is inserted into the prepared abutment by using an appropriate bonding cement and cut to the desired length.

Research results indicate that the Bio Pin bridge is a viable alternative restorative treatment protocol for maxillary anterior and posterior single tooth prostheses, and multiple mandibular anterior teeth prostheses.