

## **THE INFLUENCE OF 4-META BASED ADHESIVE RESIN COATINGS ON THE RETENTION OF PREFABRICATED TITANIUM POSTS IN AMALGAM AND COMPOSITE CORE-BUILD UP MATERIALS**

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### **Abstract:**

Lack of retention of posts to the core materials is one of the causes of failure of post-core restorations. Therefore, any treatment capable of producing actual bonding between the post and the core material would be expected to diminish the weakening effect of the posts. Accordingly, the present investigation was undertaken to evaluate the influence of application of 4-META based adhesive resin coatings on the retention of prefabricated titanium posts in dental amalgam and composite resin core-build up materials. Thirty tapered titanium posts were divided into two equal groups of 15 posts each. Each group was allocated to one of the core materials tested, that is, amalgam and composite resin. Ten posts of each group were coated with a 4-META based adhesive resin (Amalgambond Plus) while the remaining 5 posts were not coated and acted as controls. Specially constructed split plexiglass die with 3 holes (4X6mm), and a base with 3 post channels was used to carry centralized posts during core preparation. In one group after coating the post and setting of the adhesive material, Z100 composite resin core build up material was incrementally packed and cured. In the other group, Dispersalloy amalgam was condensed around the post while the adhesive material was still wet. The retentiveness of the post inside the core material was evaluated on a universal testing machine adjusted at a cross head speed of 0.5mm/minute. The load value of bond failure of each post-core specimen was recorded. Two extra representative specimens of each group, with and without adhesive resin coating, were prepared for microscopic examination. It was concluded that: 4-META based adhesive resin improves the bond and adaptation of prefabricated titanium posts to amalgam and composite resin which is recommended to be the material of choice as a core build up material with or without intervening adhesive agent.

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