

ABSTRACT

AIM:

To measure and compare bracket transfer accuracy of five indirect bonding (IDB) techniques.

MATERIALS AND METHODS:

Five groups were studied. In each group 10 working models and 10 study models are taken.

Group I – PolyVinyl Siloxane (PVS – Putty)

Group II – Single Vacuum Form (Single-VF)

Group III – Clear Polyvinyl Siloxane (PVS -Clear)

Group IV - Double Vacuum Form - Double VF

Group V – Polyvinyl Siloxane (Clear) Vacuum form (PVS-VF)

Brackets were bonded on 50 identical stone working models (10 per technique) . IDB trays were fabricated to transfer brackets to another 50 identical stone study models (10 per technique). The MesioDistal (M-D: x-axis), OcclusoGingival (O-G: y-axis), and BuccoLingual (B-L: z-axis) positions of each bracket are measured using the Photographic and Caliper measurements.

RESULTS:

When the techniques were compared, bracket transfer accuracy was similar for PVS-VF, PVS-Clear, and PVS putty, whereas Double-VF showed significantly less accuracy in the O-G direction. Single VF was less accurate in all three directions (M-D, O-G & B-L).

CONCLUSION:

Based on the findings of the present study, overall differences in bracket position were relatively small. Silicone-based trays had consistently high accuracy in transferring brackets, whereas methods that exclusively used vacuum-formed trays were less consistent.