THE INFLUENCE OF FINISHING AND POLISHING ON SURFACE ROUGHNESS OF THREE PACKABLE COMPOSITE RESINS

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ABSTRACT

Previous studies have investigated the finishing and smoothness of composite and glass ionomer but few have investigated the surface finish of packable composite. This study evaluated the surface roughness before and after finishing and polishing of three packable composite resins (Surefil, Alert, Ariston pHc) and one hybrid composite (Z –l00). Ten cylindrical specimens 6 mm in diameter and 3mm in depth were prepared from each material and cured in increments of 1.5mm for 40 seconds each. Five of the specimens were not finished and the other five were finished and polished using fine diamond burs and poly tip polishing points. The average surface roughness was determined using a profilometer. The surface topography of each material was evaluated by the SEM. Results showed that Alert had significantly the roughest surface for polished and unfinished specimen, while Ariston had the smoothest. No significant difference in surface roughness was found among Surefil, Ariston and Z-l00. The surface topography of Alert revealed the presence of round filler particles and rods, \ hile the other materials had smaller rounded filler particles with different sizes. It is con-cluded that the finished and polished surfaces of the studied materials are significantly smoother than unfinished ample. The size of the filler particles of packable composite influences its surface smoothness.

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