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## Differentiation of one-step and multistep polishing systems for the surface roughness of resin composite materials

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**Aim:** This aim of the study is to examine the effect of different finishing and polishing systems on the surface roughness of a microfilled (Amaris), and a nanofilled resin composite (Clearfil Majesty Esthetic) using Scanning electron microscope (SEM) analysis and surface roughness tester.

**Materials and Methods:** Thirty five specimens subjects of each material was prepared in a plexiglass mold (10 mm in diameter and 2 mm in depth) and cured against a Mylar matrix strip to create a baseline surface. The average surface roughness was measured using a surface profilometer (Mahr Perthometer SP4, Germany) in three different positions on each sample before and after finishing with one of the seven finishing procedures: Procedure 1: Mylar strip (control), Procedure 2: Tungsten carbide burs, Procedure 3: Diamond burs, Procedure 4: Procedure 2 + one-step diamond micropolisher (PoGo), Procedure 5: Procedure 2 + multi-step discs (Super-snap), Procedure 6: Procedure 3 + one-step diamond micropolisher (PoGo), Procedure 7: Procedure 3 + multi-step discs (Super-snap). The data was analyzed statistically using two-way analysis of variance (ANOVA) and Duncan test at a  $p = 0.05$  significance level. Results: Nano-filled composite showed a significantly decrease Ra values than microfilled composite in procedures 4, 6 and 7 ( $p < 0.05$ ). In other procedures, there were no significant differences among composites ( $p > 0.05$ ).

**Conclusion:** Nanofilled resin composite showed a significant decrease Ra values than microfilled resin composite in regardless of finishing methods, diamond micro-polisher produced smoother surfaces in comparison to polishing discs.

### Biography

Abdullah Abdulqader Haqash completed his Bachelor degree at Alfarabi College in Riyadh. He was an organizer of more than one conference. Currently he is doing his internship at Al-Farabi College for Dentistry and Nursing, Riyadh, Saudi Arabia.

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