

Rovatti, L., Mason, P.N., Dallari, B. , Dallari, A. Influence of carved surface on carbon and quartz posts retention *J Dent Res. Vol 85 (Spec. Iss. C) Abstract #0554, PEF Division 2006
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New quartz fiber endodontic posts with a carved surface have been recently marketed. Objectives: the purpose of this in vitro study is to compare the influence of different surfaces on carbon and quartz fiber posts luted into root canals. Methods: Into 20 extracted single-rooted human teeth, fiber-reinforced posts with a different surface (smooth and carved) have been luted by using a self-etching composite cement (All Bond II C & B, Bisco), so obtaining 4 groups of 5 elements each: 1) Composipost (RTD, France). 2) Composipost Retentive (RTD, France, with carved surface). 3) DT Light- Post (RTD, France). 4) DT Light-Post Retentive (RTD, France, with carved surface). In a further 5th group of 5 teeth, used as control, quartz fiber posts (DT Light-Post) etched with hydrofluoric acid 9.6 % for 15 sec have been luted with the same composite cement. Roots have been sectioned perpendicularly to long axis with a diamond wheel and the slices 2.2 mm thick so obtained have been subjected to pull-out test with Instron machine. Results: group 1: 27.12 MPa. group 2: 31.7 MPa. group 3: 29.83 MPa. group 4: 41.7 MPa. group 5: 32.4 MPa Conclusions: a) quartz fiber posts confirmed to be more retentive than carbon fiber posts. b) a carved surface leads to a higher retention both in carbon and in quartz fiber posts. c) by using quartz fiber posts (etching is ineffective on carbon fibers), the carving of the surface leads to much higher values of retention than etching with hydrofluoric acid. d) all the above suggests that a macro-retention could be the right choice to increase the resistance to dislodgment of fiber-reinforced posts adhesively luted into root canals.