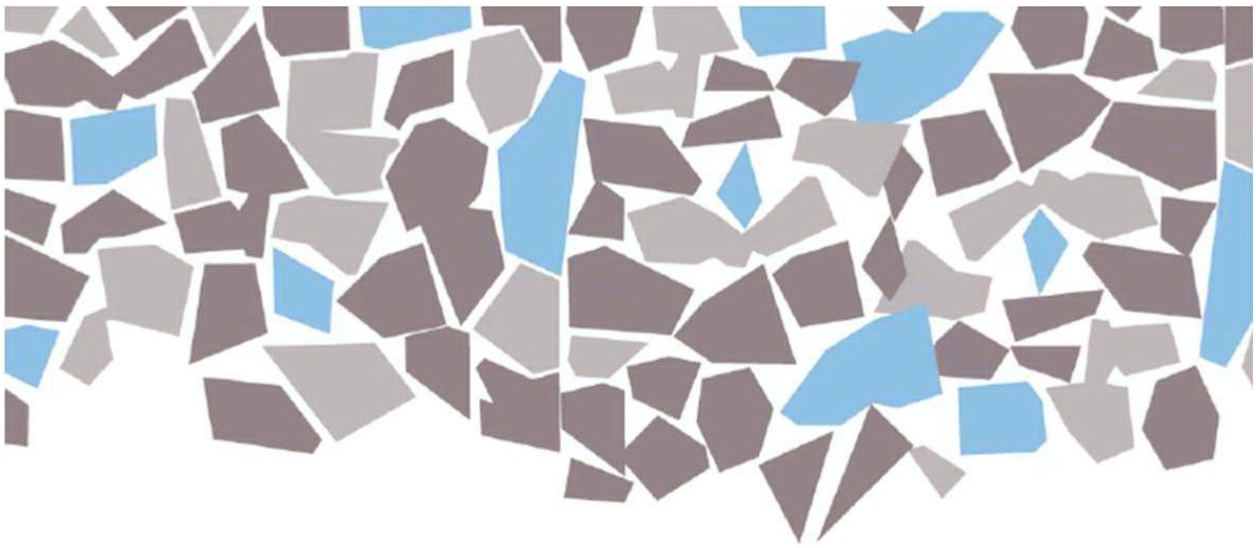

ESE Barcelona2015
September, 16-19

Endodontics: Where biology and technology merge

General Endodontic

GE98

Ability of different obturation techniques to fill canal irregularities using gutta-percha and RealSeal

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Aim To test the ability of gutta-percha and RealSeal to fill canal irregularities using different obturation techniques.

Methodology A split-tooth model with four artificially created defects on canal wall was used to compare three techniques, cold lateral (CLC), warm lateral (WLC), and warm vertical (WVC) used with gutta-percha and RealSeal obturating materials. The technique evaluation was based on defect replication quality as a function of defect location and size. Obturation mass was removed for visual evaluation on an ordinal scale, 0 to 4, based on how much each defect was replicated. Statistical analysis was performed using Kruskal-Wallis test and Mann Whitney test ($p = 0.05$).

Results Both warm techniques were significantly better than CLC. Based on defect sites, WVC was better than WLC in replicating the apical defect. There was no significant difference between replicating small and large middle defect for the two warm techniques. For filling materials, no significant difference was found between gutta-percha and RealSeal in all defect sites using WLC and WVC.

Conclusions Both gutta percha and RealSeal can similarly replicate canal irregularities with worm obturation technique. Worm condensation (either vertical or lateral) is proved to be better than the cold lateral condensation in replicating the apical defect.