



A study on the quantity of apical extrusion of debris according to early coronal flaring

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I. Objectives

This study investigated the quantity of debris which was extruded apically after canal instrumentation using different types of enlarging instrument in endodontic resin models.

II. Material and Methods

Five groups of 9 endodontic resin model were instrumented using each different technique : hand instrumentation without early coronal flaring, hand instrumentation after early coronal flaring, and three nickel-titanium engine-driven instrumentations (Hero 642, Protaper, K3) after early coronal flaring. Debris extruded from apical foramen during instrumentation was collected on preweighed CBC bottle, desiccated and weighted using electronic balance. The results were analysed using Kruskal-wallis test and Mann-Whitney U rank sum test at a significance level of 0.05.

III. Results

1. Group without early coronal flaring extruded significant more debris than groups with early coronal flaring.
2. There was no significant difference among early coronal flaring groups.
3. All of instrumentation techniques produced apically extruded debris.

IV. Conclusions

Early coronal flaring seems to significantly reduce the amount of debris extruded apically.