Cutting Efficiency of Dental Burs

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Objectives: To evaluate the cutting efficiency of tungsten carbide burs (TC) and rotary diamond instruments using scanning electron microscopy, by measuring their rake angle and visual examination of their cutting surfaces respectively.

Methods: 60 short and long head pear-shaped TC and 18 round rotary diamond instruments that had been used to prepare < than 5, > than 5 and > than 10 cavities were selected from the 3rd & 4th year dental students, Dental Faculty, University of Malaya. 12 cylindrical and flame rotary diamond instruments were also selected from the 5th year students. The rake angle of TC was measured and surfaces of diamond instruments were evaluated using Field Emission Scanning Electron Microscope (FESEM). Each test group comprised of 10 samples and new burs constituted the control group. The data were analysed descriptively and statistically using Two-way ANOVA, SPSS version 12. Results: The rake angles of control, < than 5 and > than 5 groups were significantly higher compared to > than 10 groups, p < 0.05. Rotary diamond instruments used to prepare < than 5 cavities showed intact diamond particles with distinct cutting facets comparable to control group. Instruments used to prepare > than 10 teeth showed blunt and dislodged diamond particles.

Conclusions: The rake angle of TC is significantly lower and diamond instruments showed blunt diamond particles after cutting > than 10 preparations.

Comparing Undergraduate Endodontic Curriculum between 3 universities

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Objectives: The purpose of this study is to understand and compare the curriculum structure, techniques and materials used in the undergraduate pre-clinical and clinical endodontics programmes in University of Melbourne (UMel), University of Otago (UO) and University of Malaya (UM). Besides, we also like to compare the methods of teaching and assessment in all 3 schools. Methods: A check-list was developed based on the undergraduate curricular guideline of European Endodontics Society (ESE) and American Association of Dental Schools (AADS). This checklist was modified accordingly to suit the requirement of this research. Faculty members with the responsibility of teaching the related disciplines in endodontics were interviewed (through personal or email communication). Results: Result from this survey showed that the teaching methods in three schools were mainly based on a didactic curriculum. There was some variability in the instruments and materials used, and the clinical requirement and preclinical work requirement were different. Students in UMel were practicing 2-handed-dentistry during clinical session. Whereas, students in UM and UO were practicing 4-handed-dentistry. However, Otago students were practicing 2-handed-dentistry when they were in final year. Conclusions: The undergraduate endodontics training were varied in those 3 schools, yet the curriculum structure, techniques and materials used were largely similar.