

RADIOGRAPHIC EVALUATION OF TECHNICAL STANDARD OF ROOT CANAL TREATMENT PROVIDED BY TWO BATCHES OF DENTAL STUDENTS AND PRESENCE OF PERIAPICAL PATHOLOGY AT THE TIME OF OBTURATION

S.N.W. ABEYGUNAWARDHANA AND K. A. WETTASINGHE

Department of Restorative Dentistry, Faculty of Dental Sciences, University of Peradeniya

The aim of this study was to assess the technical standard of root canal treatment done by dental students and to investigate the presence of any periapical changes at the time of obturation. The study sample consisted of all immediate postoperative radiographs of root canal treatment performed by two batches of 135 undergraduate dental students during 2003 and 2004. All radiographs were examined in a darkened room, using a uniformly illuminated viewing box with magnification whilst mounted in a cardboard slit to block off ambient light. Measurements were taken with a transparent ruler. The technical standard of root fillings was assessed in terms of density, position and presence of voids of the root filling. The presence of any periapical change at the time of obturation was also recorded.

A total of 969 teeth had been root filled by 135 final year students, which comprised of 37% upper central incisors, 16% upper lateral incisors, 7% upper canines, 29% upper premolars, 0.2% molars, 4% lower incisors, 0.8% lower canines and 6% lower premolars. Eighty four percent showed adequate density and 94% had no voids. In 40% of the teeth the root filling was within 2 mm of the radiographic apex, 18% were filled flush with the apex, 19% were more than 2 mm from radiographic apex, and 23% were overfilled. Only 3% were without any periapical changes and 39% had widening of periodontal ligament. Fifty eight percent had a periapical radiolucency, of which 41% was less than 5mm and 17% was more than 5mm in diameter.

On average one student had done at least seven root fillings. Radiological acceptability in terms of density and voids were excellent. However, attention has to be paid to the final position of the root fillings. It is recommended that the patients be recalled to evaluate the long-term success of the root fillings.