

**1296** Marginal leakage in retrograde filling in function of different materials

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Thirty single-rooted human root canals were instrumented and obtured. The roots were apically resected and cavities were prepared for retrograde obturation. The roots were randomly divided into 3 groups, in wich were used the following materials: I- Coltosol; II- Sealer 26 (5:1 in volume); III- Sealapex + zinc oxide. All roots were immersed into a 2% methylene blue solution for 7 days. The depth of linear dye penetration was measured and the data submitted to statistical analysis. There was statistical difference between the groups. The group I demonstrated more dye penetration (p"0,05)

**1297** Comparative analysis of smear layer removal from root canal walls. Scanning Electron Microscopy". DAMETTO, F.R.\*; FERRAZ, C.C.R.; TANOMARU

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The aim of this study was to evaluate *in vitro*, through scanning electronic microscopyc, the superficial cleaning of the root canal walls. The roots were instrumented manually or by rotatory system. Mesial roots of recently extracted inferior molars were used. They were divided in 2 experimental groups: the group 1 was submitted by rotatory system with Pow-R files (Moyco Union Broach, USES) following the manufacturer's instructions and, the group 2 was submitted to manual instrumentation by the "step- back" technique with K stainless steel files (Maillefer Dentsply, Swiss). Between each change of instrument the teeth were irrigated with sodium hypochlorite 2,5%. The cleaning ability of the canal walls was evaluated in the cervical, middle and apical thirds in each specimen, through attribution of scores. The scores were submitted to the statistical Mann Whitney test. The results demonstrated that the rotatory system promoted better cleaning in the apical third than the manual files, however, no diference was observed in the cervical and middle thirds (p <0,05).

**1298** Effects of the copper vapour laser radiation in the root canal wall dentine.

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Ten human uniradicular teeth had their crown removed along the cement-enamel junction and right away a proper chemical-surgical preparation of the radicular canals was done; the roots were longitudinally sectioned in order to allow the irradiation of the surfaces of the root canals wall dentine. The hemi-roots were separated in two groups: group I (control I), with four hemi-roots, not irradiated; and group II, with 16 hemi-roots, subdivided in four sub-groups submitted to the following exposition time: 0,02s; 0,05s; 0,1 s and 0,5s. A cooper vapour laser was used with a 510,6nm wavelength, total average power of 11W in green and yellow emissions; average power of 6,5W in green emission; frequency of 16.000Hz and pulse duration of 30ns. The pulse energy (in green) is 0,4mJ and the peak power 13,5W. The results obtained by scanning electron microscopy analysis showed the appearance of a cavity in the region of the laser beam incidence in the edges of this cavity, dentin was melt and resolidified presenting also cracks due to heat diffusion. Based on these results, we concluded that the size of the cavity formed in the dentin is directly proportional to the rate of exposure and, the more laser emission in the same area, more damage in the root canals wall dentin occurs. More studies need to be done with different exposition's time in order to obtain a safety protocol.

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