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Effect of sodium hypochlorite contamination on microhardness of dental core build-up materials

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Abstract:
This study aimed to determine the influence of sodium hypochlorite (NaOCl) contamination on the microhardness of build-up composites. Fifty-two samples, from each of three build-up materials (LuxaCore Dual, MultiCore flow and Rebilda DC) were prepared. Half of the samples from each material were stored in physiologic saline (baseline control) while the other halves were stored in NaOCl. After 1 h, the samples were rinsed with tap water, cut axially and measured for Knoop hardness at different depth levels. The results were analysed by ANOVA and unpaired *t*-tests ($p<0.05$). Significant differences in microhardness were observed for LuxaCore Dual up to 0.2 mm, Rebilda DC up to 0.3 mm, and for MultiCore flow up to 0.4 mm under the surface level. Contact with sodium hypochlorite on build-up materials causes reduction of the microhardness. The softening is not only limited on the surface, but can also be found in deeper layers of build-up materials.

Key words:
Composite, Degradation, Microhardness

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