Aim: Discoloration of nonvital teeth arises from hemorrhage caused by trauma, necrotic pulp tissue and endodontic material's remnants in the pulp chamber. The purpose of this study was to compare the commonly used intracoronal bleaching materials with 45% carbamide peroxide regarding their effect on tubular diameter and mineral content of human dentin.

Method and Materials: Dental discs of 1 mm thickness were prepared from coronal dentin of sixty-four human maxillary premolars. Experimental specimens were divided into four subgroups: 45% carbamide peroxide, 35% hydrogen peroxide, sodium perborate + 30% hydrogen peroxide, sodium perborate + water. The specimens were then evaluated under scanning electron microscope to determine diameter of dentinal tubules and chemical analysis.

Results: There was significant difference between dentinal tubule diameter of all test and control groups with the exception of sodium perborate + water. Chemical analysis revealed that there was no significant difference between experimental subgroups regarding calcium and sulfur wt%.

Conclusions: All bleaching agents increased dentinal tubule diameter and promote alterations in mineral content of dentin with the exception of Sodium perborate mixed with water.

Presentation: Oral