

# ABSTRACT AND KEYWORDS

## DISSERTATION TITLE

**An in vitro study to compare the effects of different colour changing orthodontic adhesives and different resin removal techniques on enamel colour.**

## ABSTRACT

**Aims and Objective:** To find a combination of colour changing orthodontic adhesive and resin removal system which contribute to minimal enamel colour change following orthodontic treatment.

**Materials and methods:** 150 extracted human premolars were divided into 5 groups, one control and 4 experimental groups in which orthodontic brackets were bonded using 2 colour changing orthodontic adhesives, Greengloo and Transbond Plus. After subjected to artificial ageing the brackets were debonded and resin removal was done using 2 types of adhesive removal systems, 12 fluted tungsten carbide bur and coarse Soflex disc. An episode of artificial ageing was carried out again. The colour changes were noted at the baseline, after debonding and after second photoageing.

**Conclusion:** There was insignificant amount of enamel colour change post orthodontically, when Grengloo and Transbond plus colour changing orthodontic adhesive were used. Tungsten carbide and soflex resin removal systems has similar effect on enamel colour immediately after debonding. Tungsten carbide bur group has shown to produce discolouration 30 days post treatment, when compared with the control. Grengloo and Transbond plus colour changing adhesives along with soflex disc may be used for better aesthetics after orthodontic treatment with minimal enamel colour change.

**Keywords:** Enamel colour, orthodontic adhesives, resin removal.