# IN-VITRO COMPARISON OF FRACTURE RESISTANCE OF HEAT PRESSED VENEERS AND CAD/CAM MANUFACTURED VENEERS.

By

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# ABSTRACT

**Aim:** To evaluate and compare the fracture resistance of Heat pressed veneers and CAD/CAM manufactured veneers.

**Methodology:** 27 caries free permanent premolars extracted for orthodontic or periodontal reasons were collected and were mounted in a cold cure acrylic resin. The teeth were then divided into 3 groups (GROUP A- IPS e.max press, GROUP B- IPS e.max CAD, GROUP C – Control). Standardized veneer preparation was done for all the samples in group A and group Veneers were fabricated and the materials were manipulated according to the manufacturer's instructions and cemented. Thermocycling was done on all the samples for 1000 cycles at temperatures ranging from $5^0$ C to $55^0$ C with a 5 second interval. Testing was done using Universal Testing Machine. Data were obtained and were statistically analyzed. Mode of failures were observed using a stereomicroscope

**Results :** There was a statistically significant higher fracture resistance (N) among Group B, [~ 248.11 N] ( IPS e.max CAD ) when compared to Group A [201.65 N] ( IPS e.max press ). ($P<0.005$)

**Conclusion:** Under the limitations of this study, among the materials tested it was found that IPS e.max CAD showed the highest fracture resistance, suggesting its better longetivity in posterior teeth region.



**Key words :** Veneers; IPS e.max CAD ; IPS e.max press ; CAD/CAM ; Thermocycling ; Fracture resistance ;