

## Comparison of the Effect of Feldspathic Porcelain and Zirconia on Natural Tooth Wear

**Authors :** Ammar Neshati, Elham Hamidi Shishavan

**Abstract :** Background and Aim: Enamel wear is among the main disadvantages of ceramic restorations. Recently, use of full zirconia crowns without dental porcelain has been suggested. The aim of this study was to compare the effect of feldspathic porcelain and zirconia on the wear of natural teeth. Materials and Methods: In this experimental study, 22 zirconia specimens were fabricated; out of which, 11 specimens were polished and used as zirconia specimens while the remaining 11 were used to fabricate porcelain specimens. A total of 22 natural human teeth were also collected. The natural teeth were photographed by a stereomicroscope in a fixed position and the distance from the cusp tip to a reference point was measured. Next, 11 teeth opposed zirconia and the remaining 11 opposed porcelain specimens in a chewing simulator and subjected to 120,000 masticatory cycles. The teeth were photographed again and the greatest difference between the before and after values was recorded. Results: The mean ( $\pm$  standard deviation) wear rate was  $153.8 \pm 95.68$  and  $306.3 \pm 127.74$ , in the zirconia and porcelain groups, respectively; and the two groups had a statistically significant difference in this respect ( $P=0.007$ ). Conclusion: The mean wear was significantly lower in teeth opposing zirconia than in those opposing feldspathic porcelain.

**Keywords :** natural tooth wear, feldspathic porcelain, zirconia, effect

**Conference Title :** ICDS 2015 : International Conference on Dental Sciences

**Conference Location :** Prague, Czechia

**Conference Dates :** July 09-10, 2015