The purpose of this study is to evaluate the fracture strength of teeth restored with varying post and core systems. Thirty extracted maxillary anterior teeth were collected and root canal treated. The crowns that have a wide pulp chamber, no coronal tooth structure left and are planed for an all-ceramic restoration were used. Each tooth was divided into three groups of 10 teeth and a control group of 10 teeth, making a total of 40 teeth. The greatest fracture strengths were found in Group A, thick parallel Zirconia posts, with a degree of esthetics. If fracture does occur, it will most likely be within the tooth structure and not in the post and core system. The fracture strengths tests have been performed using the universal testing machine INSTRON 1011 at a crosshead speed of 1 mm/min until fracture (Figure 7). The teeth were cut off at the proximal CEJ level. Post and core systems were fabricated using Cerec software analysis for milling.

Fracture Strength of Teeth Restored with Different Designed Post and Core Systems

**Objective**

The objective of this study is to evaluate the fracture strength of teeth restored with different designed post and core systems. The purpose is to determine which post and core system provides the highest fracture strength.

**Background**

Teeth that require post and core reconstruction due to a previous fracture or loss of tooth structure can be restored with a strong and durable post and core system. Until recently, the most commonly used post and core systems were cast gold and composite fiber posts. However, drawbacks such as the need for a separate crown and the potential for fracture with low esthetics have led to the development of new post and core systems.

**Methods**

Thirty extracted maxillary anterior teeth were collected and root canal treated. The crowns that have a wide pulp chamber, no coronal tooth structure left and are planed for an all-ceramic restoration were used. Each tooth was divided into three groups of 10 teeth and a control group of 10 teeth, making a total of 40 teeth. The teeth were cut off at the proximal CEJ level. Post and core systems were fabricated using Cerec software analysis for milling.

**Results**

The greatest fracture strengths were found in Group A, thick parallel Zirconia posts, with a degree of esthetics. If fracture does occur, it will most likely be within the tooth structure and not in the post and core system. The fracture strengths tests have been performed using the universal testing machine INSTRON 1011 at a crosshead speed of 1 mm/min until fracture (Figure 7). The teeth were cut off at the proximal CEJ level. Post and core systems were fabricated using Cerec software analysis for milling.

**Conclusion**

Treatment with different post and core systems for teeth restored with different designed post and core systems provided varying fracture strengths. Further analysis is required to determine which post and core systems provide the highest fracture strength.

**References**


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These are great examples of posters that show a good balance of copy to photos, charts and tables. Poster layout may be horizontal or vertical, depending on the requirements of the meeting where it will be presented.