

On translucent yttria stabilized zirconia ceramics

Mechanical considerations, phase transformation and cement choices

Dental ceramics are increasing in popularity within the contemporary clinical practice. Zirconia (ZrO_2) ceramics are usually preferred over other ceramics systems due to its mechanical properties. Nonetheless, new zirconia formulations have recently become available for clinicians. These formulations contain an increased molecular percentage of yttria (Y_2O_3) compared to traditional formulations. They are commercialized as “translucent” zirconias.

According to the current literature, no clinical studies have provided information regarding their survival rates and complications. Moreover, it is not fully understood how factors at the mechanical and molecular level could affect their clinical outcome.

This thesis aimed to investigate different variables associated with these new translucent zirconia formulations regarding mechanical aspects, crystallographic and morphological characterization, and alternatives for cementation.

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