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Synthesis, Testing and Mechanical Behavior of Dental Biomaterials at Different Clinical Parameters

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Message from the Collection Editors

Dear Colleagues,

Although the oral environment can present an unfriendly effect on dental biomaterials, the synergy collaboration of many studies from different fields has allowed us to provide durable dental treatments and positive life quality improvements for our patients using dental biomaterials applied in many ways.

Currently, dental biomaterials can be developed with unique microstructure, be susceptible to specific surface treatments, present an isotropic behavior and sometimes viscoelastic performance. The overall performance of the dental treatment can be affected by the use of smart materials in terms of durability and mechanical resistance, as well as by the processing methods, clinical parameters, and laboratorial techniques applied during oral rehabilitation.

Dental biomaterials, in general, are extremely important to dentistry today and allow us to recover missing biological tissues with a proper biomimetic concept and adequate esthetics. Nevertheless, the dental biomaterial properties related to their durability, mechanical, and long-term behavior should be known before applicability in the human body.