Special Issue

Mechanical Behaviour of Nickel Titanium Endodontic Files: State of the Art and Clinical Implications

Message from the Guest Editor

The introduction of nickel–titanium (NiTi) instruments in endodontics has radically changed the concept of root canal preparation with predictable and reproducible results. Despite the numerous advantages, the risk of NiTi instrument separation inside the root canal cannot be completely cancelled. Thus, in recent years, several innovations regarding design, surface, and thermal treatments have been proposed to enhance the mechanical behavior of NiTi instruments. The purpose of this Special Issue is to collect the most recent and novel studies on the mechanical properties of new NiTi instruments to provide clinicians with updated information on the mechanical behavior of new NiTi files. It include but are not limited to the following:

- Evaluation of cyclic fatigue and torsional behavior with particular attention to the maximum angular deflection, maximum bending moment, permanent angular deflection, and torsional moment;
- Assessment of cutting ability and its clinical implications;
- Surface/thermoanalytical techniques to characterize the mechanical/thermal behavior of new NiTi files;
- Influence of repeated clinical use on mechanical properties of NiTi instruments.

Guest Editor

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Deadline for manuscript submissions

closed (20 July 2023)

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Message from the Editor-in-Chief

The biomaterials field is one of the largest and fastest growing research areas both in the scientific community and in the industrial one. Biomaterials are the result of collaborations between different disciplines: chemistry, medicine, pharmacology, engineering and biology. The objective of this collaboration is to lead to the implementation of new devices to restore form and human body functions. The mission of the *Journal of Functional Biomaterials* (*JFB*) is to focus attention on physico-chemical characteristics and their importance in the interactions between biomaterials and living tissues. *JFB* seeks to publish studies on the preparation, performance and use of biomaterials in biomedical devices, as well as regarding their behavior in physiological environments. We are pleased to welcome you as our authors.

Editor-in-Chief

Prof. Dr. Pankaj Vadgama
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