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Advances and Applications of Nickel-Titanium Alloys in Medical Fields

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Message from the Guest Editor

Since the observation of shape memory characteristics in an almost equiatomic nickel-titanium (NiTi) alloy in research developed for the United States of America Navy, NiTi alloys have been employed not only in ocean engineering but also in medical fields, with applications in orthopedics, orthodontics, and endodontics. The almost equiatomic proportion of the main two elements leads to a weight proportion of around 56% nickel and 44% titanium. As with other metallic alloys, the NiTi alloy can exist in several crystallographic arrangements. The changes in the alloy arrangement may result from stress application or temperature effects. Due to their characteristics, NiTi alloys have been recurrently used in the manufacture of medical tools and instruments. This Special Issue intends to provide an overview of the latest advances, tendencies, and applications of this alloy in multiple areas of different medical fields. It is my pleasure to invite you to contribute to this Special Issue, where both research papers and reviews, with a focus on the following potential topics, are welcome.

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