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Maximum Insertion Torque of a Novel Implant-Abutment-Interface Design for PEEK Dental Implants

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Abstract. Frequent reports attest to the various advantages of tapered implant/abutment interfaces (IAIs) compared to other types of interfaces. For this reason, a conical IAI was designed as part of the development of a PEEK (polyetheretherketone)-based dental implant. This IAI is equipped with an apically displaced anti-rotation lock with minimal space requirements in the form of an internal spline. The objective of this study was the determination of the average insertion torque (IT) at failure of this design, so as to determine its suitability for immediate loading, which requires a minimum IT of 32 N·cm.

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