Mechanical properties of bone-implant interface: an in vitro model for the comparison of stability parameters affecting various stages during Osseo integration for dental implant.

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Abstract

Radiographic examination and palpation have been two of most common the methods often used in clinical assessment for implant stability for years. However, radiographs are two-dimensional and difficult to standardize in dental clinical diagnosis. In current study, an in vitro model for dental implant during osseointegration was designed and tested. To attain optimal healing range prior to frequency measurement, removal torque measurements of the initial as well as plateau mechanical bounding force will be exam for various stiffness of the base materials. Resonance frequency measurements will then be taken at predetermined healing intervals on implants placed in experimental animal. Significance between mechanical stability and increase in resonance frequency will be observed in search of its correlation with the stability of the implant-tissue interface.