

COMPUTATIONAL BIOMECHANICS OF DENTAL IMPLANTS AND PROSTHESES

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ABSTRACT

Computational methods (namely the finite element method) allow the determination of stress and strain in dental restorations resulting from external force, pressure, thermal change and other factors. This is very useful for indicating mechanical aspects of biomaterials and human tissues that can hardly be measured in vivo.

A key factor for the success or failure of dental restorations is the manner in which stresses are transferred to the surrounding bone. Load transfer from implants to surrounding bone depends on the type of loading, the bone-implant interface, the length and diameter of the implants, the shape and characteristics of the implant surface, the prosthesis type and the quantity and quality of the surrounding bone.

This mini-symposium is dedicated to all computational aspects involved in the understanding and improvement of multiple-implant prostheses (including implant-supported fixed prostheses, implant-supported overdentures and combined natural tooth and implant-supported prostheses).