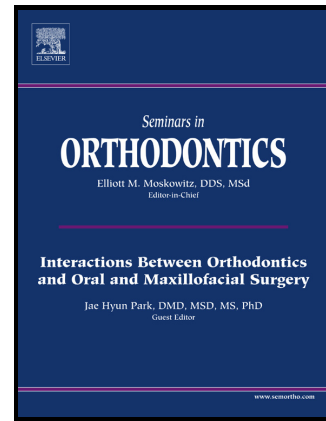


Author's Accepted Manuscript

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– the clinical applications revisited

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www.elsevier.com/locate/ysodo

PII: S1073-8746(17)30042-7
DOI: <http://dx.doi.org/10.1053/j.sodo.2017.07.008>
Reference: YSODO514

To appear in: *Seminars in Orthodontics*

Cite this article as: Iosif Sifakakis and Theodore Eliades, Laboratory evaluation of orthodontic biomechanics – the clinical applications revisited, *Seminars in Orthodontics*, <http://dx.doi.org/10.1053/j.sodo.2017.07.008>

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Laboratory evaluation of orthodontic biomechanics – the clinical applications revisited

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Abstract

The aim of the present review is to discuss the current evidence on laboratory research for studying biomechanical aspects as related to orthodontics and critically appraise the amount of this research that can be translated to clinical level orthodontics.

Finite element analyses (FEA) are used often in the field of Orthodontics. The reliability of FEA depends on the geometry of the structure, the material properties and the loading configuration. The center of resistance is of fundamental importance for the evaluation of movement in Orthodontics. Most simulations for the assessment of the center of resistance involve FEA. Another series of experiments evaluate force and moment from several appliances during orthodontic movement. The Orthodontic Measurement and Simulation System is used in many of these studies. Especially for torque quantification, several bracket/archwire configurations have been tested on

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