

## ABSTRACT

### Title

The lower incisor position: how the selection of materials alters biomechanical configurations and biological response

### Summary

Control of the mandibular incisor position is a key principle in many therapeutic concepts and orthodontic techniques. Despite the often exaggerated importance assigned to the spatial orientation of this tooth, the topic continues to play a central role in many biomechanical schemes. The lecture analyzes 4 major cases where biomechanics may alter the lower incisor buccolingual inclination and position, namely continuous arch mechanics, leveling of the curve of Spee, intrusion arches, and placement of inappropriately constructed mandibular lingual fixed retainers. The forces and moments developed with these mechanics, as well as the effects on magnitude and biological response in healthy and diseased tissues are analyzed. In as much, the role of material selection in determining the spectrum of effects of the foregoing variables is discussed and guidelines are formulated to achieve predictable results with limited risk for unwanted effects on tooth position and periodontal tissue integrity.

## CV

Theodore Eliades is Professor and Director of the Clinic of Orthodontics and Pediatric Dentistry, Director of Research, and Interim Director of the Institute of Oral Biology at the Center of Dental Medicine, University of Zurich. He qualified from the School of Dentistry, University of Athens, completed the Orthodontic program of the Ohio State University and earned an MS from Ohio State, a doctorate from the University of Athens, and a PhD from the University of Manchester. His research has generated 250 papers and chapters, he has edited 11 textbooks and co-supervised more 50 doctorates and Master's at the Universities of Athens, Thessaloniki, Marquette, Manchester, Bonn and Zurich. He is an elected Fellow of the Institute of Materials, Minerals and Mining, and the first dentist who was awarded the Fellowship grade of membership from both, the Royal Society of Chemistry, and the Institute of Physics (UK). Prof. Eliades is Visiting Professor at King's College London and served as the Editor-in-Chief of the *J Dent Biomech* and Associate Editor of the *EJO*, the *AJODO*, and *Prog Orthod*. He was the 2014 Northcroft Memorial lecturer for the British Orthodontic Society conference, the 2015 Jan Taylor Visiting Lecturer of the Australian Foundation for Orthodontic Research and Education, and has been offered the 2018 Milton Sims Visiting Professorship at the University of Adelaide. Work under his supervision has won the Bengt Magnuson prize of the IAPD, the FEO award of the EFO, 2 best poster prizes and 3 WJB Houston research poster awards of the EOS.