

26th EURO DENTISTRY CONGRESS

September 17-18, 2018 | Amsterdam, Netherlands

Optimized biomechanical protocol (OPB)- myths and truths about self-ligating brackets in orthodontics

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Self-ligating brackets are ligature less bracket systems that have a mechanical device into the bracket to close off the edge wise slot. These brackets can be classified as passive, interactive or active, according to the locking systems and to the relation they present with the arch wires inserted in their slots. One can say that one of the greatest benefits in the use of these brackets is the reduction of friction between slot and arch wire, thus allowing a faster tooth movement, especially when using sliding mechanics. This is partially true since the friction reduction does not depend only on the bracket and wire connection system. In order to effectively reduce friction, it is necessary to use thermodynamic wires, especially those with ionic surface treatment. In addition, in order to have greater control of the dental position, especially during the alignment and leveling of the dental arches, it is necessary to use stops. Reduced friction in performing induced tooth movement means that more biologically compatible forces may be applied during orthodontic movement. This means working with lower levels of forces, allowing a better control of the mechanics, especially of anchorage and reducing the probability of biological costs, as root resorptions. Thus, the Optimized Biomechanical Protocol has the purpose to allow a fast service, reducing the time of chair (by using self-ligating brackets); a reduction of the orthodontic biological cost, greater biomechanical comfort during the treatment and greater time for the detailing and refinement of the occlusion (through the application of a logical sequence of thermodynamic arch wires and strategically positioned stops); and culminating in patient satisfaction and well-being.

Biography

Eduardo Alvares Dainesi has completed his PhD in Orthodontics in 1998 at the University of São Paulo, Brazil and Postdoctoral degree in Orthodontics at the same university in 2001. Since then, he has coordinated postgraduate courses such as specialization and master's degree in orthodontics, in addition to working in private practice. Currently he is the Scientific Director of E. Orto-Post-graduation School in Dentistry in the city of Bauru, São Paulo, Brazil. He has published several papers in reputed journals and has been a Scientific Reviewer of some journals.

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