How to improve the predictability and efficiency of orthodontics using digital planning indirect bonding and monitoring of treatment progress

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Abstract

In this lecture, we will discuss the new possibilities in orthodontics to plan the result before beginning of treatment. 3D imaging with intra oral scanners, facial scans and a CBCT will help the specialist to construct a "virtual head". This will improve the diagnosis and the development of a treatment plan for the individual patient. When patients accept the treatment plan after presentation of the planned result, they should be offered to select the appliances used. Buccal or lingual placed brackets, standard wires or wires which have been customized by bending robots. Or treatment with orthodontic aligners. Or a combination of fixed appliances and aligners (hybrid treatment). Only after digital planning and the use of custom orthodontic appliances the orthodontist can make an estimation of the treatment time needed. Because of the individual response on orthodontic forces and the side effects which occur during treatment, monitoring of tooth movement (with an intra-oral scanner) is needed. Dental monitoring (the patients makes images of their dentition with their smartphone) will enable to reduce the visits in the orthodontic office. Why should custom appliances replace traditional orthodontic appliances. This revolutionary new approach for orthodontic treatment will transform current orthodontic treatment radically.

Biography:

Hero Breuning graduated as a dentist and an orthodontist from the University of Utrecht, the Netherlands, in 1981. He received his PhD in 2004 at the Free University of Amsterdam in the Netherlands . He maintained a private orthodontic office in the Netherlands for more than 25 years and was assistant professor 3D Imaging at the Department of Orthodontics and Craniofacial Biology Radboud University Nijmegen.. His research interest focuses on the accuracy of digital dental models, intraoral scanners and custom orthodontic appliances. He is lectures on the use of Digital planning of orthodontic treatment, Custom orthodontic appliances, CBCT images in orthodontics, bonding of brackets and effective use of TAD's for orthodontic anchorage. His publications include research on intraoral distraction during orthodontic treatment, TAD's, accuracy of digital dental models and the use of digital treatment planning in orthodontics.. Dr. Hero Breuning lectures extensively and has presented during major orthodontic conferences and in more than 17 countries. Recently he published together with professor Chung How Kau as editors and authors the textbook: Digital planning and Custom Orthodontic Appliances.

Speaker Publications:

1. "Facial improvement after mandibular midline distraction and surgically assisted rapid maxillary expansion", VOLUME 152, ISSUE 4, P523-542, OCTOBER 01, 2017
2. "Digital model application in orthodontics", 1 December 2014
3. "Symposium Join us! Innovations in Orthodontics 13th October 2017 in Naarden, the Netherlands" American Journal of Orthodontics and Dentofacial Orthopedics/ Volume 152, Issue 4, October 2017
4. "Digital planning and Customized Orthodontic Treatment",/ 978-1-119-08777-9, April 2017
5. "Using Clinical Phenotypes for Generating Dental Patient Personas", juniperpublishers/ Vol 1, Issue 1, March 27, 2017
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