Orthodontics is gradually evolving towards a more dynamic concept of occlusion, of functional harmony and biologic/mechanic interconnexion.

 Luckily, the progress from the old “static concept” of Class I occlusion to the present concept of functionally supported occlusions is not completely new to the orthodontists.


 Hence, we are not talking of a new concept!

 What can these two studies offer to orthodontists?

 Form and Function, this is what our teachers have taught us to make a correct diagnosis, to set a proper plan of health care and to define the objectives of stability and, above all, the maintainability of the results of our orthodontic treatments.

 Let’s see a clinical example of how form and function determine diagnosis and prognosis!

 A patient aged 25 was orthodontically treated in the past with fixed orthodontic appliances. He came to our attention due to progressive re-cession of 4.1, increase in sensitivity, and difficulty to maintain proper oral hygiene. The patient has unneccessarily been brought to us for periodontal surgery. Upon examination, we discovered severe gingival recession of 4.1 associated with buccal root inclination and traumatic contact with the antagonist for extrusion. It also featured a fixed lower retainer, from 3.2 to 4.2, repeatedly repaired.

 The old fixed retainer previously managed incorrectly has become an active retainer on 4.1 with bucal root torque unchecked. A proper morphologic diagnosis must consider the three-dimensional position of the root in the alveolar bone and not just detect the bucal gingival recession, whose single consideration has already led to a treatment failure.

 The treatment plan involved: (a) removing the old retainer and fixing a lingual appliance by self-ligating brackets i- TT from 3.4 to 4.4 with the purpose of aligning the lower frontals, (b) correcting the root torque of 4.1 and (c) eliminating the occlusal trauma to allow recovery of an adequate periodontal health condition and secure maintainability. The required correction has been completed in 8 weeks from the removal of the old retainer and the simultaneous bonding of the lingual orthodontic appliance. The buccal gingival recession of 4.1 has improved significantly, only thanks to its repositioning in an appropriat periodontal environment, which has also improved the conditions for maintainability. The lingual appliance, very well tolerated by the patient, is maintained as a fixed retainer. (Figures 1-3)

 It does nothing more than express the message is pretty clear. The treatment plan involved: (a) removing the old retainer and fixing a lingual appliance by self-ligating brackets i- TT from 3.4 to 4.4 with the purpose of aligning the lower frontals, (b) correcting the root torque of 4.1 and (c) eliminating the occlusal trauma to allow recovery.

 The cephalometry has been used in orthodontics for long time for diagnostic purposes and for training of orthodontic generations of orthodontists, which need those numbers at all.

 Of course, with study and experience, orthodontists would likely not need those numbers at all.

 Moreover, could we do the cephalometry without radiation for a patient when the patient has a health advantage with the ALARA dose (ALARA, as low as reasonably achievable)? (Ref. Am. J. Orthodontist Dentofacial Orthop. 2008;134 397-409)

 4D Orthodontics

 From Morphologic Diagnosis to Time Factor

 By Dr. Matteo Beretta, Italy and Dr. Nunzio Cirilli, Italy

 Where do we stand now in modern orthodontics?

 New methods of orthodontics take great advantage of digital technologies. They do this by preparing an individual treatment plan for the patient, which addresses his/her complex needs. Such a plan factors matters of biocompatibility and sustainability, which might not be exclusively related to his/her orthodontic problems.

 Our research in this area has recently been exploring new scientific grounds, and the question of how new technologies could effectively change the way we diagnose and treat the model plane the corresponding treatment.

 A new player is emerging in the tridimensional era, the 4D technology!

 What does it mean? Can we talk of a new revolution in all diagnostic-orthodontic planning?

 In 2007, Tiziano Baccetti and Harold D. Kesling further no-ted: “Without dissecting the teeth from the orthodontic models and from the orthodontic models and the morphologic diagnosis and the cases or, more clearly, the circumstances that determine or modify it.

 Orthodontics is gradually evolving towards a more dynamic concept of occlusion, of functional harmony and biologic/mechanic interconnexion.

 Luckily, the progress from the old “static concept” of Class I occlusion to the present concept of functionally supported occlusions is not completely new to the orthodontists.

 This is what W.J. Thompson wrote in 1979 in his article in Angle Orthodontist entitled “Occlusal Plane and Overbite”. (Ref. Angle Orthodontist, 1979 January 49(1):47-55)

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¹Defined as non-antibacterial fluoride toothpaste.

CEREC Zirconia: Valued material can now be used chairside

By Dentsply Sirona

Full contour zirconia has become a very popular material in dental offices due to its high fracture strength, biocompatibility and tissue-conserving properties. Dentsply Sirona’s CAD/CAM technology allows dentists to process and place full contour zirconia in a single session.

CEREC now provides a complete new process to dental practices by combining the new CEREC SpeedFire furnace and CEREC Zirconia material. Dentists can now deliver full contour crowns and small bridges made of the full-strength, high-quality zirconium oxide in their own practice while the patient waits.

High strength, short manufacturing process

The greatest benefit of CEREC Zirconia is its high flexural strength of the material, making it suitable for individual crowns as well as small bridges and can be processed in thin wall thicknesses.

During the treatment, new virtual models can be obtained by further digital scans of the dental arches, which may be superimposed on the initial ones, if desirable. In this way, it is possible also to monitor the progression of the therapy.

In more complex cases requiring morphologic diagnosis, it is possible to superimpose the digital models and a 3D reconstruction of the maxillary bones and the roots obtained from the CBCT. By specific software, one can do a set-up that considers the real anatomical limits of the radicular movement, which is named “set up bone safe” (Figures 9-10). In this case, the virtual tooth of the patient is obtained by mixing the crown derivated from the intraoral scan and the root from the CBCT in this way, the radicular position in the maxillary bones could also be defined during and at the end of the treatment by repeating the intraoral scan, without further exposure to X-rays.

It is thus possible to monitor the real progression of the orthodontic treatment, respecting the anatomical limits of the patient, evaluating systematically the match to the set up and, if necessary, restructuring it. The follow up to our cases is not any longer confined to controls administered after the treatment. It becomes a dynamic concept, where time does not tell us what we have to do with the orthodontic therapy, if we identify the right moment of treatment.

The virtual follow up tells us what is happening today, now, beyond what our eyes see and with maximum care for the patient.

References
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Presents

Prophylaxis Master (1+2) Programs
Includes but not limited to... Important aspects of prophylaxis, Optimal use of the basic instruments, Instrument and equipment maintenance, Supragingival & Subgingival ultrasonic scaling, Cleaning of bifurcations and trifurcations, management of biofilm, Recall - planning and organization, etc. (includes Hands-on & Clinical Cases)

Perio Master Programs
Includes but not limited to... biofilm, Gingivitis and Periodontitis, Co-relationships between Periodontal disease and general health, Motivation & Education, Conventional vs. paradigm shift in prophylaxis protocols, Initial periodontal treatment, Long term maintenance, etc. (includes Hands-on & Clinical Cases)

Implant Maintenance Programs
Includes but not limited to... understanding Implant designs, Etiology, Signs and symptoms, Risk factors, Conventional vs. current technologies for Implant maintenance, Recall sessions & Home Care, etc. (includes Hands-on & Clinical Cases)

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<tr>
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<td>Prophylaxis Master 1 and 2</td>
<td>Friday 11 March 2016</td>
<td>Elzaan Booysen</td>
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<td>Perio Master + Implant Maintenance</td>
<td>Friday 27 May 2016</td>
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<td>Perio Master + Implant Maintenance</td>
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<td>Victoria Wilson</td>
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<td>Victoria Wilson</td>
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Unlock your potential...

Elzaan Booysen
University Diploma, Oral Hygiene, University of Pretoria, RSA.
Emirates Airlines Dental Clinic, Dubai, UAE, Dental Hygienist.
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MBA in General Management

Victoria Wilson
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Has many publications & lectures in Hygiene topics.

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The short process to produce CEREC Zirconia restorations is both convenient and economical. With this market launch, all CEREC milling/grinding units now provide wet and dry milling. Dry milling reduces the overall processing time for zirconia and, combined with the world’s fastest sintering cycles, enables the chairside procedure.

The workflow is easy to learn since the CEREC Software 4.4.1 guides the dentist through the entire process, and even sends the sintering and glazing information to the furnace. No programming of the furnace is required – it is all handled automatically by the software. A high-performance material and a specially tailored workflow ensure a simple process and high-quality treatment CEREC meets patients’ needs in terms of time and attendance.

Reducing the number of visits, injections and making the overall prosthetic procedure more comfortable influences patients to opt for treatment with CEREC.

In addition to CEREC Zirconia, many other high-performance materials can be processed with CEREC. The range of materials with CEREC also expands clinical indications since the dentist can easily select the material suited for each indication.

Investment for a successful future There have always been good reasons to start using digital dentistry with CEREC. CEREC Zirconia completes the range of indications for chairside application for nearly every situation, thus giving dentists greater choice and allowing them to increase the value of their practice’s offering.

Dentists can find details about CEREC Zirconia on http://www.cerec.com/Zirconia.

It is obvious that advanced technologies in automobiles, computers and smartphones make our daily lives easier. CEREC is also a technology that further develops a dental practice and can make it well positioned for the future. Especially now, as the system is highly flexible, it enables dentists to expand their offering in implant dentistry and orthodontics.

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