New materials and technologies have made it possible to treat even difficult orthodontic cases with non-extraction and non-surgical approaches and great predictability. Among these innovations are Align Technology’s Invisalign solutions with SmartTrack material and SmartForce features. At the 93rd Congress of the European Orthodontic Society (EOS) in Montreux, Canadian dentist Prof. Tarek El-Bialy will be presenting on the efficiency of orthodontic treatment with SmartTrack aligners changed weekly, in a satellite symposium.

Align’s continuous innovations, including the SmartTrack aligner material, SmartUrgage technology and SmartForce features, are clinically proven to improve control of tooth movement with Invisalign clear aligners, thus, allowing for greater predictability of orthodontic cases. Building on its Invisalign G3 product line, which was introduced in 2010, the company has steadily evolved its Invisalign portfolio and associated treatment software. Its latest G7 series includes features to fine-tune certain tooth movements for improved clinical outcomes. Owing to these technological advancements, Align has recently adapted its recommendation from two-week aligner wear intervals to weekly changes for all Invisalign treatments (with default staging protocol) for Invisalign Full, Invisalign Teen, Invisalign Lite, and Invisalign Go products, provided the patient’s individual case is deemed suitable by their provider.

In testing the clinical outcomes of the one-week interval in over 200 Invisalign patients, a study found the same level of predictability as with two-week aligner wear, consequently allowing for a treatment time that is up to 50 per cent shorter. According to the study, which the company has used in the treatment of Class II and III, severe crowding, deep bite and open bite cases without surgery, even in adults or extraction.

In Montreux, El-Bialy, Professor of Orthodontics and Bioengineering at the University of Alberta in Canada, will be giving an in-depth introduction to the biomechanics and treatment planning associated with weekly SmartTrack aligner changes. El-Bialy, who runs a private practice in Alberta, is an Invisalign Elite Provider, having treated over 300 patients with the solution.

“The improvements in the control of tooth movement, especially with SmartTrack material that provides gentle constant force, led me to change aligners weekly,” El-Bialy stated. “I have been changing aligners weekly with a broad range of patients, and even in complex and challenging cases have achieved the same clinical outcomes as when changing aligners every two weeks. This has greatly benefited my patients.”

Patients want shorter treatment times and doctors want more efficient treatment,” commented Align Technology Chief Marketing, Portfolio and Business Development Officer Raphael Pascaud in this regard. “Significant improvements in Invisalign product predictability over the last few years, especially resulting from our proprietary SmartTrack aligner material, and the positive experiences shared by Invisalign providers who prescribe one-week aligner wear give us confidence that most patients using Invisalign Teen or Full products will benefit from weekly aligner changes and shorter overall treatment times.”

The satellite symposium, titled “Efficacy of one-week SmartTrack aligner change in treatment of difficult and complex orthodontic cases: Biomechanics and case management” will be held from 12:40 to 13:20 at the Auditorium Stravinski on 7 June.

Editorial note: The above-mentioned reference can be obtained from the publisher.

TOOTH MOVEMENT ACCELERATION DEVICE ON DISPLAY

Current orthodontic mechanics optimise the process of tooth movement, and now OrthoPulse complements that by influencing the biology of tooth movement. Manufactured and distributed by Biolux Research in Canada, it is a clinically proven device that uses low levels of light energy to stimulate the periodontium, specifically the alveolar bone, surrounding the roots of the teeth. In this manner, it is intended to facilitate tooth movement and reduce treatment time significantly.

OrthoPulse is a self-treatment device that, according to the manufacturer, does not require extra chair time and can easily be performed by the patient at home in just ten minutes per day. It is the only device of its kind cleared by the US Food and Drug Administration for use with both fixed appliances and clear aligners. It has received regulatory approval in Canada, the European Union, Australia and New Zealand too, among others.

OrthoPulse is supported by solid clinical evidence. A study conducted by North American researchers recently found that photobiomodulation, also known as low-level light therapy, which is used by the device, is an effective way of reducing treatment time by increasing the rate of tooth movement.

Since 2003, Biolux has sponsored over 20 university-based clinical trials and in vivo and in vitro studies.

The technology has already been used for bone regeneration, grafting and dental implant procedures, and clinical research has shown accelerated stability of dental implants treated with Biolux’s OsseoPulse appliance. According to the manufacturer, it will provide dentists with the unique opportunity to accelerate their patients’ treatment time and differentiate their practice by dedication to revolutionary orthodontic technology.


Booth 3

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VENUE: Starhotel Terminus

26th - 27th June 2017  
Tokyo | Japan  
LANGUAGE: English with Japanese translation  
VENUE: InterContinental Tokyo Bay

07th - 08th October 2017  
Paris | France  
LANGUAGE: French  
VENUE: Marriott Hôtel Champs-Élysées

27th - 28th October 2017  
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LANGUAGE: German | Liberty 1 Room  
English | Central Park Room  
VENUE: Hilton Frankfurt City Centre

USER MEETINGS

24th - 25th November 2017  
Frankfurt on the Main | Germany  
LANGUAGE: German  
VENUE: Hilton Frankfurt City Centre

02nd December 2017  
Paris | France  
LANGUAGE: French  
VENUE: Paris George V
Introduced by TOMY, a leading Japanese provider of shape memory alloy technology, in 2016, BioActive Light is a nickel–titanium shape memory orthodontic archwire that allows orthodontists to start treatment with a large-diameter archwire, while still providing the same comfort to the patient as a round wire, immediately controlling torque and limiting secondary effects. The new archwire uses 50 g less force than its predecessor on the entire arch with a 0.02 × 0.02 in. (0.51 × 0.51 mm) archwire. To thoroughly benefit from the shape memory effect in cases of severe overcrowding, it can be cooled through cryogenics for easier wire insertion, the company said.

BioActive Light is a true technological achievement with the large-diameter archwire featuring the biomechanical properties (force, super-elasticity and shape memory) of small-diameter archwires, such as Initialloy 0.014 in. (0.356 mm; 50 gf at 32.5 °C) on the incisors, Initialloy 0.018 in. (0.457 mm; 150 gf at 32.5 °C) on the lateral section and Initialloy 0.020 in. (0.508 mm; 230 gf at 32.5 °C) on the molars. According to the company, these force levels closely follow the recommendations of the late Prof. Joseph Jarabak, then at the University of Michigan School of Dentistry, for moving teeth based on their roots.

In collaboration with Prof. Fujio Miura, at that time at the Department of Orthodontics at Tokyo Medical and Dental University, TOMY developed the first shape memory NiTi archwire at the end of the 1980s. Known as Bio-Edge, these world-famous archwires are still distributed by GC Orthodontics today. Available in square or rectangle, their key property is the delivery of continuous, predictable and light force.

A breakthrough in archwire technology came in 1992 with the creation of the first shape memory archwire that delivered progressive light and continuous force from the inter-incisal to the second molar region (100–300 g). These archwires are currently available from GC Orthodontics as BioActive (BioForce from TOMY in Asia).