

THE FORESTADENT CENTENARY SYMPOSIUM



*100*th ANNIVERSARY ORTHODONTIC
SYMPOSIUM MAJORCA 2007

ABSTRACTS & ONSITE-PROGRAM


100 YEARS OF PRECISION

Creating precision products
is what makes us tick.



ORTHODONTIC | BRACKETS | BANDS | WIRES | EXPANSION SCREWS | INSTRUMENTS

After 100 years, it's time to face facts.

- 100 year old precision manufacturer
- Started in the watch and jewelry business
- German engineering and quality
- Family owned and operated
- Satisfied orthodontists around the world

FORESTADENT[®]
100 YEARS OF PRECISION

PROGRAM AT A GLANCE

Date	Time	Activity	Location
Thursday, Sept. 27th	9:00 – 18:00	Course: Easy Lingual Treatment	Hotel Gran Melia Victoria
	9:00 – 12:00	Course: Self-Ligating Systems	Hotel Gran Melia Victoria
	14:00 – 18:00	Course: Simplified Molar Distalisation	Hotel Gran Melia Victoria
	15:30 – 18:30	Seminario de Actualización Alumnos Swing Dr. Frenck	Hotel Gran Melia Victoria
	19.45	Departure by bus to Bellver Castle	Symposium Hotels
	20:00	Get-together	Bellver Castle
Friday, Sept. 28th	9:00 – 10:30	Morning lectures, Session 1	Congress Palace: Sala Magna
	10:30 – 11:00	Coffee break	Congress Palace
	11:00 – 12:30	Morning lectures, Session 2	Congress Palace: Sala Magna
	12:30 – 14:00	Lunch break	Congress Palace
	14:00 – 15:30	Afternoon lectures, Session	Congress Palace: Sala Magna
	15:30 – 16:00	Coffee break	Congress Palace
	16:00 – 17:30	Afternoon lectures, Session 2	Congress Palace: Sala Magna
	19.30	Departure by bus to Gala Dinner	Symposium Hotels
20:00 – 23:00	Gala Dinner	Son Termens	
Saturday, Sept. 29th	9:00 – 10:30	Morning lectures, Session 1	Congress Palace: Sala Magna
	10:30 – 11:00	Coffee break	Congress Palace
	11:00 – 12:30	Morning lectures, Session 2	Congress Palace: Sala Magna
	12:30 – 14:00	Lunch break	Congress Palace
	13:30	Departure by bus to the Golf tournament	Congress Palace
	14:00 – 19:00	Golf tournament	Golf Majoris
	14:00 – 15:30	Afternoon lectures, Session 1	Congress Palace: Sala Magna
	15:30 – 16:00	Coffee break	Congress Palace
	16:00 – 17:30	Afternoon lectures, Session 2	Congress Palace: Sala Magna
	22:00	Private disco party	Disco "Level Club"
Sunday, Sept. 30th	9:00 – 9:45	Morning lectures, Session 1	Congress Palace: Sala Magna
	9:45 – 10:15	Coffee break	Congress Palace
	10:15 – 12:30	Morning lectures, Session 2	Congress Palace: Sala Magna
	12:30 – 14:00	Lunch break	Congress Palace
	14:00 – 15:15	Afternoon lectures, Session 1	Congress Palace: Sala Magna
	15:15 – 15:45	Coffee break	Congress Palace
	15:45 – 17:00	Afternoon lectures, Session 2	Congress Palace: Sala Magna
17:00	Congress closing		
Monday, Oct. 1st	9:00 – 18:00	Post-congress course on adult treatment and skeletal anchorage	Hotel Gran Melia Victoria



Plan of the Symposium-Hotels

SOCIAL PROGRAMME

Thursday September 27th

19.45h: Departure by bus from the Congress Hotels and the Congress Palace to the Bellver Castle.

20.00h: Get-together Party with drinks and finger food, at historical Bellver Castle.

Friday September 28th

19.30h: Departure from symposium hotels to Gala Dinner at Son Termens, a beautiful Majorcan Finca (Country House), just outside of Palma. Enter into the atmosphere of a beautiful Majorcan manor house, centuries old and enjoy an elegant dinner with outstanding fine food and spectacular entertainment by local artists.

Saturday September 29th

13.30h: Departure by bus from the Congress Palace to Golf Majoris.

14.00 – 19.00h: Golf tournament at the spectacular Golf Majoris, Lluçmajor (15 minutes from Palma) Course Designers: Romeo Sala and Dieter Cabus (7000 yard, par 72 championship).

22.00h: Disco party at "Level Club", a disco in walking distance from the symposium hotels at the harbour.

ADDITIONAL INFORMATION

- Dress code: Dress will be informal throughout the symposium, except for the Gala Dinner
- Registration is open from Thursday September 27th 8.00h – 18.30h at the Gran Melia Victoria and from Friday 28th to Sunday September 30th from 8.00h until 18.00h at the Congress Palace
- Admission control: badges need to be shown at all times
- No mobile phones are allowed in the lecture hall

SCIENTIFIC PROGRAM

Symposium Topics: Interdisciplinary treatment and aesthetics in orthodontic treatment. The scientific program will consist of lectures presented by recognized scientists and practitioners on the symposium topics as well as free communications. English will be the official language of the symposium. Simultaneous translation into Spanish, German, French and Russian will be provided.

Friday, September 28th, 2007			Page
09:00	<i>Congress Opening</i>		
<i>Morning lectures – session 1. Chair: Prof. Dr. Tomasz Gedrange</i>			
09:30	Dr. Vittorio Cacciafesta	How labial and lingual self-ligating systems have changed orthodontics	10
09:55	Prof. Dr. Andrea Wichelhaus	Self-ligation systems in the orthodontic treatment	27
10:20	Discussion		
10:30	<i>Coffee break</i>		
<i>Morning lectures – session 2. Chair: Prof. Dr. Andrea Wichelhaus</i>			
11:00	Dr. Javier Frenck	The anterior guide, key to the adult treatment	11
11:45	Dr. Martin Sander	Possibilities and bio-mechanical aspects of two superelastic segmental archwires	25
12:05	Discussion		
12:30	<i>Lunch break</i>		
<i>Afternoon lectures – session 1. Chair: Dr. Vittorio Cacciafesta</i>			
14:00	Dr. Heiko Goldbecher	Clinical experiences of different self-ligating bracket systems	14
14:20	Dr. Stephane Renger	The new self-ligating Quick® bracket: from the theory to the clinical point	23
14:40	Dr. Hildebrand Stoker	Clinical performance of two self-ligating systems	26
15:00	Dr. Rolf Majjer	Quick® and In-Ovation® – their clinical performance	21
15:20	Discussion		
15:30	<i>Coffee break</i>		
<i>Afternoon lectures – session 2. Chair: Dr. Kjell Fr. Alst</i>			
16:00	Dr. Francesca Sfondrini	New horizons in molar distalization	25
16:20	Dr. Kevin Walde	Class II treatment using the frog molar distalizer in combination with Invisalign®	26
16:40	Priv. Doc. Gero Kinzinger	Molar distalization with a miniscrew-supported Distal Jet®	16
17:00	Prof. Dr. Tomasz Gedrange	Post-treatment evaluation of unilateral maxillary 1st and 2nd molars distalization with the Distal Jet® appliance	13
17:20	Discussion		
17:30	<i>End of day 1</i>		

Saturday, September 29th, 2007			Page
09:00	<i>Congress Opening</i>		
<i>Morning lectures – session 1. Chair: Dr. Gerard Altounian</i>			
09:00	Prof. Dr. Björn Zachrisson	Interdisciplinary management of missing maxillary incisors – space closure, autotransplantation or implants?	28
10:00	Dr. Juan Font	Dentoalveolar compensation in treatment of Class III with extractions	11
10:20	Discussion		
10:30	<i>Coffee break</i>		
<i>Morning lectures – session 2. Chair: Prof. Dr. A. Athanasiou</i>			
11:00	Dr. Gerard Altounian	2D brackets used with improved and controlled procedures in lingual orthodontics	8
11:20	Dr. Alexander Gebhardt	How to simplify lingual orthodontics and to incorporate it in any practice as a routine work	12
11:40	Dr. Katarzyna Łoza-Sołtyk	From the other side - lingual orthodontics and interdisciplinary treatment	19
12:00	Dr. Jakob Karp	Selected cases treated with 2D lingual appliance – simple case – medium difficulty – surgical case – preprosthetic case	16
12:20	Discussion		
12:30	<i>Lunch break</i>		
<i>Afternoon lectures – session 1. Chair: Prof. Dr. Nazan Küçükkeles</i>			
14:00	Dr. Ian Hutchinson	BEST® with 3D?	15
14:20	Prof. Dr. Athanasios E. Athanasiou	Risk management in orthodontics	9
14:40	Dr. Christian Sander	Alignment of impacted canines	23
15:00	Dr. Björn Ludwig	Interdisciplinary treatment with the use of the cortical anchorage of miniscrews	20
15:20	Discussion		
15:30	<i>Coffee break</i>		
<i>Afternoon lectures – session 2. Chair: Dr. Ian Hutchinson</i>			
16:00	Dr. Neville Bass	The Dynamax Appliance® - an appliance for full orthopaedic control and full integration with fixed appliance	9
16:20	Dr. Marc Geserick	The Bite Jumping Screw - the easy and effective way of functional orthodontics	14
16:40	Dr. Kjell Fr. Alst	Treatment approaches on Angle Class III malocclusions in mixed dentition	8
17:00	Prof. Dr. Nazan Küçükkeles	Comparison of RME and surgery assistance during maxillary protraction	18
17:20	Discussion		
17:30	<i>End of day 2</i>		

09:00 Congress Opening

Morning lectures – session 1. Chair: Prof. Dr. Ib Leth Nielsen

09:00	Prof. Dr. Dr. Robert Fuhrmann	From dramatic fiasco to high esthetics by integration of 3D imaging	12
09:20	Dr. Kristin Heimisdottir	Orthodontics as a part of dental treatment in adult patients	15
09:40	Discussion		

09:45 Coffee break

Morning lectures – session 2. Chair: Prof. Dr. F.G. Sander

10:15	Prof. Dr. Vincent Kokich	Interdisciplinary management of anterior esthetic dilemmas	17
12:15	Discussion		

12:30 Lunch break

Afternoon lectures – session 1. Chair: Prof. Dr. R. Fuhrmann

14:00	Prof. Dr. F.G. Sander	Molar uprighting with 3 different NiTi stainless steel uprighting springs	24
14:20	Dr. Eugenio Gamo	Present and future of retention systems: Alternatives of a new generation	12
14:40	Dr. Michael Williams	Advances in 3D tissue engineering beyond the orthopedic age barrier of enhanced long term facial cosmetic benefits	28
15:00	Discussion		

15:15 Coffee break

Afternoon lectures – session 2. Chair: Dr. Neville Bass

15:45	Dr. Hans-Jürgen Pauls	Orthodontic indication for lower incisor extraction	22
16:05	Prof. Dr. Ib Leth Nielsen	Long face and short face development and malocclusion	21
16:25	Dr. Irina Zetu	Myofunctional Appliance and Fixed Orthodontic Treatment	29
16:45	Discussion		

17:00 Symposium Closing

Bus shuttles between the symposium hotels (except hotel AC Ciutat) and the Congress Palace:

Morning: 8.00h – 9:00h

Evening: 17:30h – 18:30h, sunday from 17:00h

Sat., Sept. 29th, 16:40h

Kjell Fr. Alst, Dr.

Orthopedic department, Nordland Medical Centre, Bodø, Norway

Treatment approaches on Angle Class III malocclusions in mixed dentition

Many of the craniofacial sutures affected by a protraction headgear are the same that are affected by midpalatal suture expansion. A maxillary expansion or a combination expansion/compression before protraction may enhance the effect of the protraction headgear. The appliance consists of a bonded acrylic rapid palatal expansion device followed by a protraction headgear attached to buttons on the acrylic.

It is an effective treatment approach to improve the maxillomandibular relationship and soft tissue profile.

Sat., Sept. 29th, 11:00h

Gérard Altounian, Dr.

University of Paris V, France

2D brackets used with improved and controlled procedures in lingual orthodontics

Orthodontists move teeth, controlling three parameters: height, angulation and torque. In easy non extraction crowded cases, often torque control is unnecessary. Under these conditions, we consider that using «3D» brackets, is not required.

Flat brackets, described in 1988 by Julien Philippe in his book on adult orthodontics have benefited the latest technologies's improvements. Renamed «2D», these brackets of another type are brought up to date in such cases as previously mentioned.

Though it might seem in contradiction to use 2D brackets , that could be described as simple, and to associate them with complex procedures, resulting most of the time from sophisticated lingual orthodontics. It is nevertheless the subject of this lecture .

Once mentioned all the improvements recently given to the new 2D brackets by Forestadent, through a few clinical cases, we shall go into the two following subjects: bonding and space opening.

Athanasios E. Athanasiou, DDS, MSD, Dr. dent., Professor

Department of Orthodontics, Dean of the School of Dentistry, Aristotle University of Thessaloniki, Greece

Sat., Sept. 29th, 14:20h

Risk management in Orthodontics

Although the risk of harm in orthodontics is considerably limited compared to surgery or other invasive medical and dental therapies, there is nonetheless growing concern about medico-legal issues and risk management within the orthodontics community. The presentation refers to the many potential malpractice problems associated with orthodontics therapy and provides sound advice about how to avoid them.

The presentation includes the following:

Classification of undesirable tissue, organ and system effects hypothetically linked to orthodontics; enamel alterations associated with orthodontics; minimizing orthodontically induced root resorption; damage to tooth-supporting tissues in orthodontics; release of wear and corrosion products from orthodontic alloys; pain and discomfort in orthodontics; TMD and orthodontics; orthodontic treatment for the medically compromised patient; risk management; malpractice aspects of orthodontic treatment in patients with periodontal disease; avoiding malpractice lawsuits and important practical legal aspects.

Neville M. Bass, Dr.

Private practice London, Great Britain

Sat., Sept. 29th, 16:00h

The Dynamax Appliance® - an appliance for full orthopaedic control and full integration with fixed appliance

Progressive mandibular advancement, maxillary expansion, control of maxillary growth, incisor torque and control of vertical facial development are incorporated into a two-part orthopaedic appliance. The Dynamax appliance facilitates easy laboratory construction, clinical handling and patient acceptability, providing control over dento-facial development and encouraging rapid skeletal change. Unwanted dental movements are eliminated by the appliance design, allowing almost pure skeletal change.

A prefabricated spring module provides both maxillary expansion and mandibular advancement, with an easily adjustable progressive forward posture of the lower jaw. It is unnecessary to take a construction bite and the appliance can be made without the

use of a laboratory articulator. The lower portion of the appliance is a fixed lingual arch and multibracket treatment can be carried out concurrently in either or both arches. A major advantage is that the Dynamax can be used all through the fixed stage to maintain the forward position of the mandible, giving the necessary time for the adaptation of the muscles and soft tissues and minimising skeletal relapse.

Contact between the upper and lower parts of the appliance occurs posteriorly in the lingual sulcus, permitting unimpeded speech. The design of the spring ensures that the forward mandibular position is maintained throughout the range of mandibular opening. This feature provides maximum orthopaedic efficiency, even when the mouth is open during sleeping hours.

The spring module provides the strength of the appliance, so that minimal bulk of acrylic is required. The appliance is contained within the freeway space, allowing the posterior teeth to erupt into normal inter-digitation without increasing the lower face height. Appliances can also be constructed without any acrylic, using bands on the first molars, permitting fully fixed orthopaedics for the less co-operative patient.

Fr., Sept. 28th, 9:30h

Vittorio Cacciafesta, Dr. Visiting Prof.

Department of Orthodontics, University of Pavia, Pavia, Italy

How labial and lingual self-ligating systems have changed orthodontics

Aim: Nowadays, more and more patients seek an orthodontic treatment for aligning their teeth and improve their smiles. Labial and Lingual self-ligating systems have made it possible to shorten treatment times and to apply very low levels of force throughout treatment. The aim of the present report is to describe new self-ligating labial and lingual techniques.

Materials and Method: Labial self-ligating systems are represented by the combination of Quick brackets and Biostarter wires. Lingual self-ligating appliances are represented by the combination of 2D lingual brackets, Titanol preformed lingual archwires, and direct bracket bonding, without any need of set-up. The low levels of force together with the low friction mechanics is a great advantage particularly in the early stages of treatment for tooth alignment and levelling.

Results: Both labial and lingual techniques have proved to be very successful in the treatment of various malocclusions. The use of Ni-Ti wires enables the clinician to apply low levels of force throughout treatment, without the need of frequent archwire changes.

Conclusions: The use of labial and lingual self-ligating systems represents an advantageous alternative to conventional brackets in the treatment of the majority of malocclusions. Those brackets are esthetically pleasing and very comfortable for the patients.

Juan M. Font, Dr.

Private practice, Palma de Mallorca, Spain

Sat., Sept. 29th, 10:00h

Dentoalveolar compensation in treatment of Class III with extractions

When a patient with a Class III malocclusion comes for the first consultation and the chief complaint is not facial aesthetics, she/he is a candidate for dentoalveolar compensation (camouflage treatment).

The different diagnosis of a Class III malocclusion is very important: facial, functional, skeletal and dental problems should be analysed "the camouflage treatment might be a successful alternative to surgery. There might not be a need to call it compromised treatment if the stability is comparable to that of surgery and if the patient's satisfaction of the final results are also highly positive" (Turpin Editorial, AJO 2000)

Seven orthodontic cases will be presented.

Javier R. Frenck, Dr.

Private practice, Argentina

Fr., Sept. 28th, 11:00h

The anterior guide, key to the adult treatment

More and more adults get orthodontic treatments, confronting us with complex cases. Apart from the techniques, the most important is a clear handling of the concepts in order to successfully start the treatment of the patient.

The orthodontics of adults requires a multi disciplinary beginning whose common denominator is the anterior guide. Well finished clinical cases will be shown with patients with loss of anterior and posterior dental elements, periodontal problems, rehabilitation and implants.

Sun., Sept. 30th, 9:00h

Robert A. W. Fuhrmann, Dr. Dr. Prof.

Department of Orthodontics, Martin-Luther-University Halle, Germany

From Dramatic Fiasco to high Esthetics by integration of 3D imaging

Growth pattern or insufficient orthodontic treatment leads in some patients to a functional and esthetical unacceptable occlusion and dentofacial appearance. In order to reconstruct the intraoral and extraoral situation is an interdisciplinary treatment concept necessary. In extremely asymmetrical dentomaxillofacial deformities we integrated orthodontics and dentofacial surgery to reconstruct the face. 3D-imaging allows a metrical assessment of the craniofacial structures without superimposition. The integration of 3D-methods allows a higher precision of diagnosis and treatment planning.

Sun., Sept. 30th, 14:20h

Eugenio Gamo, Dr.

Private practice and Associate Professor University Alfonso X El Sabio, Madrid, Spain

Present and future of retention systems: Alternatives of a new generation.

After revising the advantages and disadvantages of the traditional retention systems, the advantages of the permanent aesthetic retentions with glass fibre of the last generation as well as its handling and application will be presented.

Sat., Sept. 29th, 11:20h

Alexander Gebhardt, Dr.

Private practice Bad Wildungen, Germany

How to simplify lingual orthodontics and to incorporate it in any practice as a routine work

Lingual treatment is perceived as a treatment method that requires an elaborate and expensive lab process, special lingual brackets and longer chair time and treatment duration. For these reasons, lingual orthodontic treatment tends to be expensive, such that only wealthy individuals can afford treatment.

However there is a lingual technique that can be economical. This presentation, using the KISS principle, will show you how lingual treatment can be simplified and therefore more economical. This will be an outstanding marketing tool for your practice giving you and your practice a new treatment approach that may create a demand for treatment from a new group of patients.

Tomasz Gedrange, Dr. Prof.

Fr., Sept. 28th, 17:00h

Department of Orthodontics, Ernst-Moritz-Arndt University Greifswald, Germany

Post-treatment evaluation of unilateral maxillary 1st and 2nd molars distalization with the Distal Jet[®] appliance

Aim: The purpose of this study was to evaluate the treatment effects of the distal jet appliance and the effect on the anchorage unit after distalization of maxillary first and second molar.

Subjects and methods: Pre-treatment and after distalization dental cast and lateral cephalometric radiographs were evaluated of 9 patients (5 girls and 4 boys). The mean age of the subject at the time of the pre-treatment radiograph was 11.5 +/- 1.7 years. The mean time for the correction of the molar position was 7.9 +/- 3.2 months, and the mean total treatment time was 26.8 +/- 6.2 months. The distal jet was the only appliance used during the distalization phase of treatment.

Results: The results of this study showed a distalization of maxillary molars (3.2 +/- 0.6 mm). As for anchorage loss, the second premolars exhibited a significant mesial movement of 0.7 mm. The effect of distalization on the maxillary third molars was extremely variable. No significant changes in either sagittal or vertical skeletal relationships were observed.

Conclusion: The distal jet appliance can be combined with usage of other appliances. This method is an effective and reliable method for distalizing maxillary molars. Its major advantages are minimal dependence on patient compliance and good patient-acceptance.

Sat., Sept. 29th, 16:20h

Marc Geserick, Dr.

Private practice in Ulm, Germany

The Bite Jumping Screw™ – the easy and effective way of functional orthopedics

Aim: Introducing a new screw system for the Twin Block appliance for stepwise overjet reduction for Class II and Class III treatment.

Method: The new Twin Block system features the incorporation of special stainless steel screws into the blocks of the upper appliance, to provide the inclined plane effect. Separate, unattached upper and lower components allow the mandible to move normally in anterior and lateral excursions without being restricted by one-piece appliance.

The Screw Advancement System provides simple, quick and safe chairside progressive advancement of 6 mm, as well as improving the clinical flexibility of the appliance, and enhancing patient acceptance in cases where mandibular protrusion is limited initially and smaller increments of mandibular advancement also reduce tension in the craniomandibular musculature.

Conclusion: Therefore the Bite Jumping Screw™ is a simple and effective device inserted into the upper bite blocks of the Twinblock appliance.

Fr., Sept. 28th, 14:00h

Heiko Goldbecher, Dr.

Orthodontic practice Drs. Goldbecher and Stolze, Halle, Germany

Clinical experiences of different self-ligating bracket systems

Self-ligating bracket systems allow effective and efficient treatment concepts. Tooth movements with low frictions give the opportunity to use lower forces. The treatment time is significant shorter. Compared to conventional brackets a higher aesthetic, better comfort and improved mouth hygiene are possible.

The aim of this study is the documentation and subjective analysis of clinical parameters of seven different self-ligating bracket systems (with .022" Roth) from the practitioner's point of view. The differences between the systems and the advantages or disadvantages of each system are demonstrated.

Kristin Heimisdottir, DDS

University of Iceland, Iceland

Sun., Sept. 30th, 9:20h

Orthodontics as a part of dental treatment in adult patients

In the past years, braces and eventually straight teeth have been gaining popularity in older patient groups. Not only bright and beautiful smiles are of importance. Some dental procedures are almost impossible to perform without getting some orthodontic help. This is especially true for deep bite cases and patients with a periodontally compromised dentition. The use of dental implants has made treatment easier, simplifying orthodontics by providing the most stable anchorage.

This short lecture will focus on interdisciplinary treatment, mainly by using conventional dental implants for anchorage in a dental treatment including orthodontics. Cases will be shown to demonstrate the use of conventional dental implants, but the prerequisite for orthodontics such as periodontal treatment and positioning of the implants will also be briefly discussed.

Ian Hutchinson, BDS FDS RCSEd M.OrthEd MSc (Bris)

Dept. of Postgraduate Education, Medical School, Warwick University, Great Britain

Sat., Sept. 29th, 14:00h

BEST® with 3D?

The two methods for placing lingual brackets onto patient's teeth are either the Direct or Indirect method. The Direct method would result in the clinician having to bend complex archwires with 1st, 2nd and 3rd order bends. The Indirect method requires a laboratory technician to produce a setup of the treated final occlusion and place the brackets onto this setup. The whole process from start to finish is complex with the potential for many errors. The BEST® method (Bonding with Equal Specific Thickness) removes the need for a complex laboratory set up and all its errors as well as reducing the amount of wire bending for the clinician. The lingual brackets are placed directly onto a study-cast of the patient. The in/out, tip and torque requirements of each tooth are built into the composite base beneath the bracket. This makes the system similar to a conventional labial straight wire system. Previously BEST® was only available with horizontal slot brackets. Lingual brackets with a vertical archwire slot offer several advantages over those with a horizontal slot.

Dr. Hutchinson will discuss how the laboratory equipment has been modified to allow the use with vertical slot brackets and his clinical opinions whilst testing the technique.

Is the combination of the BEST® technique with vertical slot brackets the best way to treat your patients?

Sat., Sept. 29th, 12:00h

Jakob Karp, Dr.

Private practice, Heimstetten, Germany

Selected cases treated with 2D lingual appliance – simple case – medium difficulty – surgical case – preprosthetic case

I will show cases with different difficulties treated with 2D Forestadent lingual appliance. It demonstrates, how easy and not very time consuming this technique is, as well as avoiding laboratory preparation.

Fr., Sept. 28th, 16:40h

Gero Kinzinger, Dr. Priv.-Doc.

Department of Orthodontics, RWTH University, Aachen, Germany and Private Practice, Toenisvorst, Germany

Molar distalization with a miniscrew-supported Distal Jet®

Background and aim: Conventional anchorage designs of exclusively intraorally anchored appliances for non-compliance molar distalization combine placing an acrylic button with relying on the periodontium of anchorage teeth. Because of the temporary partial coverage of the palate, in particular, which results in restricted hygiene capacity, this anchorage design has been the subject of critical discussions. As an alternative, an innovative combination of a skeletonized Distal Jet appliance with 2 miniscrews inserted at a paramedian location for additional anchorage support was developed. The objective of this study was to investigate the suitability of the Distal Jet for translatory molar distalization by an in-vitro analysis of the force systems and an in-vivo study. The orthodontic miniscrews of reduced diameter were checked for position stability in the in-vivo study, i.e., it checked the quality of the supporting anchorage setup.

Materials and Methods: Over a working section of 3 mm with reactivation of the loaded spring systems, the force systems of three laboratory-fabricated appliances of identical design were analyzed with a 3D metering device. 2 paramedian miniscrews (Forestadent, Germany) were inserted into the anterior area of the palate of 10 patients. Skeletonized Distal Jet appliances fitted with composite to the first premolars and the collars of the miniscrews were used for bilateral molar distalization and activated with a distalization force of 200 cN.

Results: The force systems registered in vitro exhibited complex biomechanics. Regular reactivation of the loaded coils resulted in consistent distalizing forces and uprighting moments, in forces and moments toward buccal as well as slightly intrusive forces, and mesial-inwardly rotating moments. The in-vivo study confirmed the suitability of the appliance for translatory molar distalization with slight mesial-inwardly rotation. The forces acting reciprocally on the anchorage setup were largely absorbed by 2 anchorage teeth and 2 miniscrews, while a moderate anchorage loss was found.

Conclusions: The miniscrew-supported Distal Jet appliance allows non-compliance, translatory molar distalization. The anchorage design combining 2 miniscrews inserted at a paramedian location with the periodontium of 2 anchorage teeth has stood the test of clinical application. Better oral hygiene is achieved by the absence of a palatal button, and the reduction in occlusal rests makes treatment possible in cases of limited number of teeth in the anchorage area. Miniscrew-supported periodontal anchorage of a skeletonized Distal Jet appliance achieves a higher share of molar distalization in the total sagittal movement than conventional anchorage designs with an acrylic button do.

Vincent G. Kokich, DDS, MSD

Department of Orthodontics University of Washington, Seattle, USA and private practice, Tacoma, Washington, USA

Sun., Sept. 30th, 10:15h

Interdisciplinary Management of Anterior Esthetic Dilemmas

Dentists often have pre-determined goals regarding the esthetic relationship of teeth. But these goals may differ from the esthetic goals of the patient. A recent study, completed at the University of Washington in Seattle, shows that lay people may not notice certain problems that dentists strongly believe should be resolved. This presentation will identify the major problems in anterior tooth position that produce esthetic discrepancies and illustrate the method of treating each of these esthetic dilemmas.

Sat., Sept. 29th, 17:00h

Nazan Küçükkeles, Dr. Prof.

Department of Orthodontics University of Marmara, Turkey

Comparison of RME and surgery assistance during maxillary protraction

Aim: To compare the effects of two different treatment approaches on maxillary retrognathic patients treated with expansion + face mask and surgery assisted face mask therapy.

Material and Method: Two groups of patients with maxillary retrognathic were selected for the study. First group, consisted of 18 patients (9 male, 9 female) with a mean age of 12.9 who had mild to moderate maxillary retrognathic (FH-NA: 86.75°, Nper \perp A: -3.83 mm). They were all treated with expansion + face mask treatment for 6 months. In this group, following expansion with acrylic cap hyrax appliance, face mask was applied with 1000g of total force for 16 hours a day until the achievement of Class II relationships. Second group, consisted of 16 patients (4 male, 10 female) with a mean age of 13.1 who had moderate to severe maxillary retrognathic (FH-NA: 83.25°, Nper \perp A: -6.84 mm). In this group, Le-fort I osteotomy operation was performed under general anaesthesia. On the 5-7th day a face mask with 1800 – 2000 g of total force was applied for 24 hours. Class II canine and molar relationship was achieved at the end of the second month. Lateral cephalometric films were repeated and patients were recommended to use the face mask only at night for retention purposes for 3 months. Patients were evaluated clinically and cephalometrically.

Results: Maxillary advancement was achieved in both groups ($P < 0.05$). SNA increased 3.47° in surgery, 1.64° in RME group. Cases were treated from skeletal Class III to Class I. ANB increased 4.56° in surgery and 3.19° in RME group. Upper occlusal plane rotated in the counterclockwise manner in both groups. Upper jaw (ANB 4.56°), upper lip (4.44 mm) and upper lip sulcus (5.25 mm) moved forward more significantly in surgery group compared to RME group. The treatment duration was significantly shorter in surgery group (5 months) compared to RME group (9 months).

Conclusion: Treatment outcomes and soft tissue were achieved faster and more remarkable in the surgery group.

Katarzyna Łoza-Soltyk, Dr.

Soldent, private practice, Warsaw, Poland

Sat., Sept. 29th, 11:40h

From the other side – lingual orthodontics and interdisciplinary treatment

Progress in orthodontic techniques makes treatment of malocclusion increasingly popular among adults who, compared to children, are more demanding patients. This requires the use of devices characterised by low visibility during articulation and/or in full smile. However, these patients frequently present with other problems, including: TMJ dysfunction, bruxism, prosthetic restorations, missing teeth, periodontal disease. Can such cases be treated with a completely invisible device? Can such treatment and its outcome be aesthetic? Can we approach this problem from the other side? Do lingual devices impair articulation and cause irritation of the tongue?

The cases discussed show that such treatment is possible and its results can be satisfactory. The precondition for achieving good results is close collaboration between the orthodontist and other specialists, including the periodontist, restorative dentist and implant surgeon. Presented results prove that a detailed description about extent and duration of oral discomfort, such as restriction of tongue space, lesions of the tongue, impairment of either tongue position or oral hygiene is mandatory prior to lingual treatment. Subsequently, a properly performed treatment protocol including sandblasting and a limited archwire sequence is essential for cost-effectiveness. And, finally, a well informed patient not only displays excellent compliance but tolerates suggested treatment that corrects both malocclusion and other dental problems.

Sat., Sept. 29th, 15:00h

Björn Ludwig, Dr.

Private orthodontic clinic with Dr. Bettina Glasl, Traben-Trarbach, Germany

Interdisciplinary treatment with the use of the cortical anchorage of miniscrews

Introduction: Miniscrews have become a steady component of orthodontic treatment in the last years. Without this kind of the cortical anchorage many therapy attempts and considerations would not be possible. This becomes clear in particular during the collaboration of different dental disciplines like prosthetics, oral surgery and implantology. The risks during the placement of Miniscrews decreases as it can be seen by rare loss rates. This makes the cortical anchorage within interdisciplinary treatment plans more and more popular. The study should answer by demonstration of our practice concepts the most frequent interdisciplinary questions and treatment steps.

Aim and method: Last year in our practice were placed about 400 Miniscrews. The questions to be answered were:

1. How many Miniscrews were inserted in cases of children, youngsters and adults?
2. Which disciplines were involved?
3. Which questions seemed to be most often and which complications appeared by the interdisciplinary collaboration and during the whole treatment?

The patient's data were examined and evaluated in addition also retrospectively. On the basis of single, well-chosen case studies the problems and results should be shown afterwards.

Results: The exemplary patient's reports show that the treatment of the complicated multifactorial cases could have been solved neither by only one dental discipline nor by a conventional method of orthodontic treatment. The interdisciplinary collaboration is most frequent with adults. The most frequent question is prosthetic and implantology, often in combination with intrusion of elongated teeth.

Conclusion: Miniscrews have become a necessary tool in our practice. By the easy application without complications the cortical anchorage will find a steady place also for the other dental disciplines, because especially by the collaboration with other disciplines the cortical anchorage proves his strength and stimulates to construct interdisciplinary networks.

Rolf Maijer, DDS

Consultant orthodontist, Netherlands

*Fr., Sept. 28th, 15:00h***Quick[®] and In-Ovation[®] – their clinical performance** (Rolf Maijer and Erkjan Timmer)

Self-ligating systems are often divided into two classes: non-active and interactive bracket systems. These denotations describe little about the actual clinical performance of the systems, and are more a descriptor of the fourth wall which holds the archwire in the slot.

This wall can be rigid (nonactive) such as in the Damon and Opal brackets, or flexible (interactive) such as in the Inovation or Speed brackets.

This presentation will evaluate two interactive brackets, Inovation R and Quick. These brackets are often heralded “the same”, yet our clinical experience shows them to behave differently, especially in crowded situations.

We will compare the

- Interactive spring mechanism
- Wire-spring performance in the levelling phase
- Torque efficiency of both brackets
- Placement and debonding techniques

Clinical case material will illustrate these aspects.

Ib Leth Nielsen, DDS, Clinical Prof. (Emeritus)

Division of Orthodontics, Department of Orofacial Sciences, University of California, San Francisco, USA

*Sun., Sept. 30th, 16:05h***Long Face and Short Face Development and Malocclusion**

One of the most challenging areas of orthodontics is the treatment of the more pronounced long face or short face patients. This presentation will focus on the etiology and development of these more severe problems in the hope of improving the treatment results in these challenging patients. The presentation will address the role of facial growth and development as one of the main etiological factors in the development of the associated malocclusions. The influence of the function of the peri-oral tissues in the resulting deep or open bite will also be discussed. Clinicians generally tend to pay more attention to the actual treatment procedures in these patients than to the back ground reasons for the malocclusion. This has often led to frustration during treatment when it

becomes difficult to achieve an optimal result or as in some cases the malocclusion is deteriorating during treatment. In other instances teeth have been extracted where none should have been removed because of a lack of appreciation for the role the individual facial growth pattern plays in the treatment outcome. Following active treatment the retention period in some cases has been either inappropriately short or unnecessarily long because of lack of understanding of the role of residual growth and potential for relapse in the particular patient's situation. The role of airways in the development of the long face patient has also been greatly ignored over the years. In this presentation we will discuss the possible contribution of the many different forms of compromised airways to facial development. Finally, we will provide general guidelines to treatment of patients with severe skeletal discrepancies that need combined surgical orthodontic treatment.

Sun., Sept. 30th, 15:45h

Hans-Jürgen Pauls, Dr.

Private Practice, Baden-Baden, Germany

Orthodontic Indication for Lower Incisor Extraction

Purpose: The aim of the study was to determine if the extraction of a lower incisor could represent a good or even the best solution in defined orthodontic cases. The result of a lower incisor extraction was sometimes disappointing because of the wrong indication and the insufficient diagnostics.

Material and Methods: A literature review from 1757 to now, several communicated case reports and the multitude of own cases led to many indications and contraindications. The necessity for different diagnostic methods is discussed.

Results: The most important indications are the compensating extraction of upper teeth agenesis, a tooth size discrepancy with more than 4 mm, a moderate Angle class III (Tweed III/B), a destroyed or surplus incisor or accompanied by a supplementary enamel reduction of 5 mm in the upper jaw. The most important contraindications are a dento-maxillary disharmony, a true class III, a biproalveolie, a compensating extraction for two upper premolars, a need of space under 4 mm and more than 7 mm and a great overjet and overbite. The diagnostic methods must be complete, this means a complete cast analysis (Tonn, Bolton, Moyers etc.), a cephalometric analysis to determine the sagittal and skeletal relationship of the occlusion and the incisors inclination. The most important is the absolute necessity of a diagnostic set-up.

Conclusion: The lower incisor extraction is a valuable extension of our treatment options but only under the condition of the use of the described diagnostic methods and the knowledge of the indications and contraindications.

Stephane Renger, Dr.

University of Strasbourg, France

Fr., Sept. 28th, 14:20h

The new self-ligating Quick bracket: from the theory to the clinical point

Self-ligating brackets have existed for many years, since Russel attachment in 1930. This kind of bracket has recently grown in popularity as shown by their numerous types of design. Among them, active and passive self-ligating brackets offer advantages such as more rapid ligation, less friction, light orthodontic forces, and better oral hygiene.

Passive self-ligating bracket designs contain a rigid moveable component which simply entraps the archwire. These brackets offer reduced friction, like active self-ligating brackets. But what about their tooth control during orthodontic treatment ?

On the other side, it is questionable why active design differs significantly from the passive one, from a frictional standpoint in the clinical environment (torque control, sliding mechanics and rotational movement).

The new miniaturized inter-active self-ligating Quick bracket offers significant specific advantages: smallest one-piece design, best esthetic (3D visual impact factor), patient and orthodontist comfort, tooth movement efficiency.

These characteristics will critically be examined and illustrated in this presentation.

Christian Sander, Dr. Visiting Prof. St. Louis, USA

Department of Dentistry, Div. Orthodontics, University of Ulm, Germany

Sat., Sept. 29th, 14:40h

Alignment of impacted canines

Aligning impacted canines is a difficult task. The oral surgeon has to determine the ideal access to the canine. This is ideally done with a Cone-Beam-CT. At the same time the Orthodontist can decide together with the oral surgeon the ideal tracking direction. By variation of the HU (Hounsfield Units) possible ankylosis can be detected. Also transpositions can be analysed. The space between the teeth is measurable, so that potential solutions can be discussed. This combination allows a faster treatment with a predictable result. Treated patients with impacted teeth will be shown

Sun., Sept. 30th, 14:00h

F. G. Sander, Dr. Prof.

Department of orthodontics, University Ulm, Germany

Molar Uprighting with Three Different NiTi-Stainless Steel Uprighting Springs

A lot of grown-ups have problems with tilted molars and because they are tilted, there mostly exists a pocket in the mesial border of the bone. For prosthodontic purpose and also for the health of the patient it is very often necessary to upright the molar, to close the space or to prepare the patient for an implant or a bridge work.

Uprighting the molar is mostly combined with an extrusive force and in so far, there is the danger to grind the teeth or to devitalize the uprighted molar. The new method as a new method of uprighting consists of a moment applied on the molar to move the root mesially instead of distalizing the crowd. This way of uprighting diminishes the pocket and at least, this technique is responsible for a nice bone socket for the uprighted tooth.

The special geometry of this uprighting allows to intrude the molar. This is the only available treatment goal to bring the molar into the desired position and to avoid precontacts with the guarantee of a good occlusion and articulation.

In the new development of self-ligating brackets a special tube is built in all brackets and tubes. The dimension of this special tube is .016"x.016". Because of this dimension new uprighting springs are developed with a NiTi element of .016"x.016" to fit this extra tube. The stainless steel part of this uprighting spring consists of a .017"x.025" stainless steel part. This allows the bending for the intrusion, the torque for buccal or lingual positioning of the molar and the adjustment of a curve for rotating the molar that should be uprighted.

This very easy adjustment of the uprighting spring will be demonstrated in a lot of cases which are treated by the students, the dentists, the specialists and me. The results will be discussed in contrast to the typical uprighting procedures.

F. Martin Sander, Dr.

University of Ulm, Department of Orthodontics, Germany

Fr., Sept. 28th, 11:45h

Possibilities and biomechanical aspects of two superelastic segmental archwires

Whenever there is a necessity of intruding, derotating or torquing teeth, superelastic materials are useful to avoid high forces and moments. Otherwise there is a high risk of getting resorptions of the roots. The late-leveler segmental archwire is made from superelastic NiTi and can be used to level the second molar especially at the end of treatment. Stainless steel, TMA and the superelastic late-leveler were compared in vitro by using a hexapode with an attached sensor. The .016"x.022" stainless steel archwire achieved forces of up to 13N and the TMA 5N, with a deflection of 2mm. The superelastic late-leveler had the maximum at 1,3N, with 5 mm deflection. The intruding forces help prevent an artificial opening of the bite. To avoid the risk of loosening and swallowing the archwire, it is fixated with an elastic ligature.

The derotation spring which has been especially developed to derotate canines or premolars, is used in a vertical slot bracket. It is attached to the vertical slot of the canine bracket and inserted into the molar auxiliary tube. The forces and moments were measured with the hexapode. The derotation moment achieves 1,3Nmm. Because it is NiTi material, it has a superelastic character and a very low force and moment level. To avoid side effects the wire should be fixated to the archwire by using an elastic ligature. The rotating moment is not automatically stopped after the complete derotation, so it is possible to overderotate teeth to prevent a relapse.

Francesca Sfondrini, Dr.

Assistant Clinical Professor, University of Pavia, Pavia, Italy

Fr., Sept. 28th, 16:00h

New horizons in molar distalization

(Authors: M. Francesca Sfondrini, Vittorio Cacciafesta)

Upper molar distalization has been performed in the past by the use of appliances requiring patient cooperation with headgear and elastics. More recently, several different intraoral procedures have been introduced to minimize the need for patient cooperation. This presentation describes the appliances currently available for maxillary molar distalization and critically analyzes their dentoalveolar and skeletal effects. Moreover, a new non-compliance distalizing device (Frog, Forestadent, Germany) will be introduced and its clinical management and advantages will be discussed.

Fr., Sept. 28th, 14:40h

Hildebrand Stoker, Dr.

Private Practice, Amersfoort, Netherlands

Clinical performance of two self-ligating systems

Self ligating systems are gradually overtaking the conventional orthodontic ligation market. Two systems exist: those that are “passive” and those considered as “active” self-ligating brackets. In my office the passive (Damon® 2) system has been used successfully for a number of years. Recently the Quick interactive self-ligating system has been employed in this office. Like any systems, there are advantages and disadvantages to both.

This presentation highlights the differences between these two systems, over and above the more obvious passive versus active aspects. Wire sequences that have been successfully employed for both systems will be discussed.

Fr., Sept. 28th, 16:20h

Kevin C. Walde, DDS, MS

Private practice, Washington, MO, USA

Class II Treatment Using the Frog Molar Distalizer in Combination with Invisalign

Quite often new patients require an esthetic treatment and desire Invisalign treatment for their malocclusion. This can be problematic if the patient has a Class II malocclusion requiring significant molar distalization. This lecture will demonstrate the use of the Frog Molar Distalizer in conjunction with the Invisalign system for treatment of Class II malocclusions. A brief description of laboratory and clinical procedures for delivering the Frog will be presented. Proper appliance placement for bodily tooth movement will be demonstrated. Placement for molar intrusion or extrusion will be shown. Completed cases and cases currently in treatment will be included.

Andrea Wichelhaus, Dr. Prof.

Fr., Sept. 28th, 09:55h

Department of Orthodontics and Paediatric Dentistry, University of Basel, Switzerland

Self-ligation systems in the orthodontic treatment

In the recent decade, self-ligation systems have experienced a strong prevalence and are now a firm element in the orthodontic treatment. The simplified ligation of the archwire, longer intervals of control for the patients and reduction in friction features of the brackets in sliding mechanics are an important aspect in the clinical application of this treatment system.

The low friction of the self-ligation systems is advantageous particularly in the initial stage of the orthodontic treatment. However, additional effects like binding and notching have to be considered on friction. While the classical friction is clearly below 0,5 Nmm for systems like Damon®, Smart-Clip®, In-Ovation® and Quick®, the results of friction by Speed® are above 0,5 N. By the use of the moment of 5 Nmm and 10 Nmm and the application of rectangular archwires, in general the friction achieved is higher compared to the classical friction without moment. Ligation with a stainless steel ligature in this group is equal to self-ligation systems.

For biomechanical purposes, the advantage of self-ligation systems is the application of lower forces and moments. This is shown especially in the anchorage planning. Additionally, self-ligation systems enable the automatical space opening on vertical false position of canine teeth without the need for introducing of further measures of distalisation in the area of the lateral tooth segment. This is confirmed by biomechanical measurements.

An individual programming of NiTi-Archwires is recommended for the clinical application of self-ligation treatment especially for passive systems to avoid unintentional transversal expansion especially in the mandible. The programming of this archwires can be made by heat treatment with the memory-maker. Scientific data shows that therefore the Titanol® low force is an adequate material.

Sun., Sept. 30th, 14:40h

Michael O. Williams, DDS

Private practice Gulfport, MS, USA

Advances in 3D tissue engineering beyond the orthopedic age barrier for enhanced long term facial cosmetic benefits

Orthopedic correction has previously been perceived to be an impossibility once suture closure has completed. Through the use of low continuous force the discovery of the threshold for osteogenesis has been established allowing for alteration in the osseous structure of the midface and mandible in three dimensions of space. New orthopedic designs will be presented allowing adults and nongrowing patients an alternative to dental extractions and orthognathic surgical procedures. The idea of non-extraction orthopedic camouflage techniques for correction of Class I, Class II and Class III malocclusions will be demonstrated with the use of new transverse dimension development coupled with Class II and Class III Herbst mechanisms. The application of these technologies will display the ability to create improved facial symmetry and proportionality for enhanced long-term facial cosmetic benefits at any age.

Sat., Sept. 29th, 9:00h

Björn Zachrisson, Dr. Prof.

Private practice, Oslo, Norway

Interdisciplinary management of missing maxillary incisors – space closure, autotransplantation or implants?

This lecture will deal with the advantages and disadvantages of different treatment options for replacement of missing maxillary central and/or lateral incisors in young and adult/elderly patients. The short- and long term appearance associated with the following treatment options will be covered:

- Orthodontic space closure – combination of carefully detailed orthodontic treatment and techniques from esthetic dentistry (restoration with porcelain laminate veneers and hybrid composites)
- Autotransplantation of developing premolars (restoration of the “abnormal” crowns with porcelain veneer crowns)
- Single tooth implants (restoration with porcelain crowns)

Particular emphasis will be given to the (1) esthetic outcome, (2) practicality and safety, (3) evidence base, and (4) long term results for each of the alternative solutions.

Learning objectives: appreciate the advantages and disadvantages for the different treatment options to replace missing maxillary central incisors; appreciate the advantages and disadvantages for the different treatment options to replace missing maxillary lateral incisors; learn about the advantages of ultrathin porcelain laminate veneers compared with conventional porcelain fused to gold or all-ceramic crowns; learn about the long-term outcomes when teeth are replaced in young adult patients

Irina Zetu, Dr. Assistant Prof.

University of Medicine, Orthodontic Department, Iasi, Romania

Sun., Sept. 30th, 16:25h

Myofunctional Appliance and Fixed Orthodontic Treatment

Aim: To prove the effectiveness of the treatment when using myofunctional appliance and self-ligating braces.

Material and method: The 1st control sample consisting in 20 patients treated only with fixed appliances and a 2nd study sample consisting in 20 patients treated with both fixed and myofunctional appliance. The following parameters were analyzed: occlusal relationship, dento – skeletal relationship (17 cephalometric measurements), esthetical reports (12 cephalometric measurements), bad habits, disfunction and muscular tonicity. For each facial image an esthetical score was attributed, which permitted the analyse of differences between the samples.

Results: the sample that was treated with both appliances showed a reduced soft tissue trauma, a correction of myofunctional bad habits such as tongue thrusting, incorrect swallowing and mouth breathing, a faster correction of class II malocclusion and improved facial esthetics compared with the control sample.

Conclusion: the study proves the effectiveness of using myofunctional appliances during the treatment with fixed appliance by reducing the discomfort of the patient and by reducing the total treatment time (especially when using self-ligating brackets). At the same time the appliance improve the stability by retraining oral musculature and decompresses the TMJ with a built in pivotal splint.

Key words: myofunctional training, self-ligating brackets, stability