### Friday, February 7

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<th>Speaker(s)</th>
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<tr>
<td>7:30am-8:30am</td>
<td>Breakfast</td>
<td></td>
<td>Lone Star Foyer</td>
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<tr>
<td>8:30am-8:45am</td>
<td>Welcome and Program Overview</td>
<td>Greg Huang &amp; James Vaden</td>
<td>Lone Star Ballroom</td>
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<tr>
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<tr>
<td>2:45pm-3:30pm</td>
<td>Relevant Differences Between Non-extraction and Extraction Openbite Treatment</td>
<td>Guilherme Janson</td>
<td>Lone Star Ballroom</td>
</tr>
<tr>
<td>3:30pm-4:15pm</td>
<td>The Use of Temporary Skeletal Anchorage Devices (TSADs) in Openbite Closure</td>
<td>Jack Fisher</td>
<td>Lone Star Ballroom</td>
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<tr>
<td>4:15pm-4:45pm</td>
<td>Q&amp;A Panel Discussion</td>
<td>All Friday Speakers</td>
<td>Griffen Hall</td>
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<tr>
<td>4:45pm-5:45pm</td>
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### Saturday, February 8

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<td>8:30am-9:15am</td>
<td>Managing Skeletal Open Bites with the Use of Clear Aligners</td>
<td>Bellal Shen Garnett</td>
<td>Lone Star Ballroom</td>
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<tr>
<td>9:15am-10:00am</td>
<td>The Demonstration and Evaluation of Openbite Closure with Aligners</td>
<td>Mazyar Moshiri</td>
<td>Lone Star Ballroom</td>
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<td>Contemporary Multiloop Edgewise Archwire (MEAW) Technique: Old-fashioned but Useful</td>
<td>Tae-Woo Kim</td>
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<td>11:15am-12:00pm</td>
<td>Buccal Shelf (BS) Screws for Class III Openbite Correction</td>
<td>Chris Chang</td>
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<tr>
<td>1:00pm-1:45pm</td>
<td>Long-term Stability of Openbite Correction</td>
<td>Geoffrey Greenlee</td>
<td>Lone Star Ballroom</td>
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<tr>
<td>1:45pm-2:30pm</td>
<td>Orthodontic Treatment Combined with Maxillary Surgery for Correction of Open Bite</td>
<td>Timothy Turvey</td>
<td>Lone Star Ballroom</td>
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<tr>
<td>2:30pm-3:00pm</td>
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<tr>
<td>3:00pm-3:45pm</td>
<td>A Case for Considering the Mandibular Sagittal Osteotomy in Treating Anterior Openbite</td>
<td>Dale Bloomquist</td>
<td>Lone Star Ballroom</td>
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<tr>
<td>3:45pm-4:15pm</td>
<td>Anterior Openbite Correction: Surgery vs. TADs</td>
<td>Jae Hyun Park</td>
<td>Lone Star Ballroom</td>
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<tr>
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<td>Q&amp;A Panel Discussion</td>
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### Sunday, February 9

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<td>Anterior Open Bites in Adults: Treatment Success, Satisfaction, and Stability</td>
<td>Greg Huang</td>
<td>Lone Star Ballroom</td>
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<tr>
<td>9:15am-10:00am</td>
<td>Solving the Mystery of the Anterior Open Bite in Adults</td>
<td>David Hatcher</td>
<td>Lone Star Ballroom</td>
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<tr>
<td>10:00am-10:30am</td>
<td>Refreshment Break</td>
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<td>Lone Star Foyer</td>
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<tr>
<td>10:30am-11:15am</td>
<td>Silver-Bullet Breakthrough? Mandibular Autorotation Concept (MAC) Surgery: Rationales and Outcomes</td>
<td>Takashi Ono</td>
<td>Lone Star Ballroom</td>
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<tr>
<td>11:15am-11:30am</td>
<td>Closing Summary</td>
<td>Greg Huang &amp; James Vaden</td>
<td>Lone Star Ballroom</td>
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Friday, February 7

8:45am-9:15am

**Vertical Growth in Children, Development of Open Bites**

James K. Hartsfield, DMD, MS, MSc, PhD

Dr. James Hartsfield is the E. Preston Hicks Endowed Professor of Craniofacial Genetics, Orthodontics and Oral Health Research at the University of Kentucky College of Dentistry. He is also the director of the Craniofacial Genetics Program. He has practiced and is board certified in both orthodontics and medical genetics.

Development of the vertical dimension in human faces results from the interaction of environmental and genetic factors in a mosaic pattern of growth. Craniofacial morphology is often referred to as the result of "Form following Function." But how does this happen? This presentation will present an overview of how genetics, gene/protein expression, environmental factors and epigenetics are involved in the development of facial form.

**Learning Objectives:**
- Comprehend how genetics fits in the Functional Matrix Theory.
- Appreciate the various levels of how genetics and environment interact.
- Gain a better understanding at the cellular level how to have Form follow Function and what will need to happen to maintain a change in Form.

9:15am-10:00am

**Airway, Open Bites, and Sleep Apnea in the Orthodontic Office**

J. Martin Palomo, DDS, MSD

Dr. Juan Martin Palomo is a professor and the Orthodontic Residency Director at Case Western Reserve University in Cleveland, Ohio. Dr. Palomo’s contributions to craniofacial imaging, informatics, and airway analysis have been recognized through medical and dental research awards, national and international presentations, and numerous peer-reviewed publications. At the American Association of Orthodontists (AAO) he is a member of the Council on Scientific Affairs, member of the AAOF Planning and Awards Review Committee (PARC), the AAO representative for the Image Gently healthcare group, and former chair of the Committee on Technology. He is also the Associate Editor for the Techno Bytes section of the AJODO. He was a member of the AAO task force that resulted in a white paper on sleep apnea and orthodontics, where an extensive literature review and guidelines are suggested.

Dr. Palomo is a board certified orthodontist, an Angle Society member, and an active member of American Association of Orthodontists, the American Academy of Oral and Maxillofacial Radiology, and the American Academy of Sleep Medicine.

What do we know about the connection between airway obstruction and skeletal discrepancies such as the classic "adenoid facies"? Traditionally we are trained to analyze the airway using only the lateral view on a cephalometric film, but the airway is a three-dimensional structure, and that third dimension may be hiding something relevant to our diagnosis. This presentation will show how the orthodontist can help identify and manage obstructions and sleep apnea in pediatric and adult patients, and hopefully prevent anomalies in growth and development.

**Learning Objectives:**
- Analyze both the nasal passage and the pharyngeal airway in 3D.
- Identify the airway's role in craniofacial growth and development.
- Identify how you can help your patients in your office without compromising efficiency.

10:30am-11:15am

**Open Bite: Are We Treating the Right Causes?**

Flavia Artese, DDS, MSc, PhD

Associate Professor of Orthodontics, Rio de Janeiro State University; MSc and PhD in Orthodontics, Federal University of Rio de Janeiro; Diplomate of the Brazilian Board of Orthodontics, Member of the Angle Midwest Society, Editor in Chief of the Dental Press Journal of Orthodontics.

Anterior open bite is considered one of the malocclusions of most difficult treatment, especially regarding stability. The literature presents many researches on this subject, but with controversial information. There are disagreements on the definition of open bite, its etiology and types of treatment. Possibly, the lack of consensus on the etiology of the anterior open bite may have lead to different types of treatment and can be the explanation for the high level of relapse of this malocclusion. The purpose of this presentation is to review the concepts of anterior open bite focusing on etiology, treatment methods and their stability and present criteria for the diagnosis and treatment of this malocclusion, based in its etiology, with examples of treated cases, stable for over 10 years.

**Learning Objectives:**
- Identify the etiological factors for anterior open bite.
- Analyze different tongue positions at rest and its implication on open bite treatment.
- Evaluate the importance of function on open bite treatment stability.
**Treatment of Open Bite in the Mixed Dentition: The Long-term Challenge**

Lorenzo Franchi, DDS, PhD

Dr. Lorenzo Franchi received his dental education at the Dental School of the University of Florence, Italy. He completed his PhD in Preventive Orthodontics at the Department of Orthodontics of the University of Florence in 1997. Dr. Franchi is presently Associate Professor and Dean of the School of Dentistry at the University of Florence, Italy, and “Thomas M. Graber Visiting Scholar”, Department of Orthodontics and Pediatric Dentistry, University of Michigan, Ann Arbor, U.S. He has published extensively in the international literature and he has lectured at international meetings and symposiums. He is currently member of the Editorial Board of the Angle Orthodontist and Associate Editor of the European Journal of Orthodontics and Progress in Orthodontics.

Open bite represents a serious challenge in dentofacial orthopedics. This lecture will describe the dentoskeletal effects produced by different types of appliances for the treatment of dentoskeletal open bite in the mixed dentition (quad helix with crib, open bite Bionator, removable plate with crib, rapid maxillary expansion and vertical pull chin cup). The effects produced by rapid maxillary expansion in prepubertal open bite patients will be also illustrated. The long-term stability of open bite treatment will be analyzed by reporting the results of 2 studies on the effects of quad-helix/crib therapy and rapid maxillary expansion in association with posterior bite blocks in open bite growing patients.

**Learning Objectives:**
- Comprehend the dentoskeletal effects produced by different protocols for the treatment of open bite patients.
- Identify that an increased mandibular plane angle is not a contraindication for rapid maxillary expansion.
- Identify the long-term dentoskeletal effects produced by quad-helix/crib therapy and rapid maxillary expansion in association with posterior bite blocks in open bite growing patients.

**1:00pm-1:45pm**

**Functional Factors Influencing Continuous Tooth Eruption: Keys to Understanding the Etiology and Treatment of Anterior Open Bite**

Stavros Kiliaridis, DDS, CertOrtho, PhD

Dr. Kiliaridis has been Professor and Chairman of the Department of Orthodontics, University of Geneva, since 1999. He graduated (DDS) from the Aristotle University of Thessaloniki, Greece, and received his PhD from Göteborg University, Sweden, where he also completed his specialist training in Orthodontics. Then he worked there as Associate Professor, while running a part-time private practice in Thessaloniki, Greece.

Dr. Kiliaridis has authored or co-authored over 200 research papers and several book chapters, and he is a reviewer for various international scientific journals. He is president of the Network for Erasmus Based European Orthodontic Programmes (NEBEOP) and coordinator of the European Orthodontic Teachers Forum. He has received several distinctions and international awards, and the scientific work performed by his students under his supervision has been internationally awarded on numerous occasions.

Anterior open bite is a phenotype with different origins. However, the common denominator of many patients with anterior open bite is the disharmony between the vertical facial growth and the continuous eruption of the posterior teeth in respect to the continuous eruption of the anterior teeth. Our recent findings based on clinical and animal experimental studies indicate the influence of the elevator muscles on the amount of the continuous eruption of the teeth. Understanding of the factors that influence the continuous eruption of the teeth during childhood, adolescence and adulthood is a key-issue and it may bring us closer to the solution of this big challenge: anterior open bite treatment and stability.

**Learning Objectives:**
- Consider different etiologic factors that may have caused the anterior open bite influencing the continuous tooth eruption.
- Realize that different treatment approaches may give good results but it is not the type of the appliance that will assure the stability.

**1:45pm-2:15pm**

**Form and Function: Anterior Open Bites and the Role of Oral Myofunctional Therapy**

David A. Covell, DDS, PhD

Dr. David Covell, Jr. is Professor and Chair of the Department of Orthodontics at the University at Buffalo in western New York. After completing a PhD in Neuroscience at the Albert Einstein College of Medicine, he attended dental school at The Ohio State University followed by orthodontic training at the University of Washington. Dr. Covell currently serves as Associate Editor for the American Journal of Orthodontics and Dentofacial Orthopedics and The Angle Orthodontist.

Abnormal tongue positioning is associated with open bites as well as other aspects of malocclusions. Having correct tongue posture and activity are important aspects of successful orthodontic treatment and long term stability. With orthodontic treatment of open bites, the tongue’s environment is changed with the intent that tongue positioning will become normalized. With myofunctional therapy, training exercises are used to correct tongue positioning, which can then lead to improved structure of the mouth. While each approach can have positive treatment results, this presentation will focus on evidence related to treatment outcomes when both form and function are simultaneously addressed.

**Learning Objectives:**
- Comprehend the developmental relationship of tongue posture to anterior open bites.
- Recognize potential limitations of orthodontic treatment if tongue function remains abnormal.
- Appreciate the synergistic impact of combining orthodontic and myofunctional therapy in achieving long term success when correcting open bite malocclusions.

**Updated 02/03/2020**
Relevant Differences Between Non-extraction and Extraction Openbite Treatment

Guilherme Janson, DDS, MSc, PhD

Dr. Guilherme Janson received his dental education at Bauru Dental School, University of São Paulo, Brazil. He completed his Master’s and PhD programs in Orthodontics at the Department of Orthodontics at Bauru Dental School, University of São Paulo in 1986 and 1990, respectively. From 1990 to 1991 he was a visiting researcher at the Faculty of Dentistry, University of Toronto, Canada. Dr. Janson is currently Professor at Bauru Dental School, University of São Paulo, Vice-Dean of the same school and Deputy Superintendent of the Hospital for Rehabilitation of Craniofacial Anomalies. He is a diplomate of the Brazilian Board of Orthodontics and has published extensively in the international literature and has lectured at international meetings and symposiums. He is currently a member of the Advisory Board of Progress in Orthodontics and of the Editorial Board of Orthodontics and Craniofacial Research and Dental Press Journal of Orthodontics.

This lecture will demonstrate the important factors that play a role in the decision of treating an open bite without or with extractions. The mechanisms of action with these two approaches will be illustrated and their implications for treatment results and stability will be addressed. Scientific evidences on the different stabilities provided by both open bite approaches will be explained. Clinical procedures to increase treatment stability will also be shown.

Learning Objectives:
- Diagnose when to treat an open bite without and with extractions and to know the mechanism of action of each approach.
- Know the percentage of clinical stability provided by non-extraction and extraction open bite treatment, based on scientific evidences.
- Increase treatment efficiency and stability with several additional clinical procedures.

The Use of Temporary Skeletal Anchorage Devices (TSADs) in Openbite Closure

Jack C. Fisher, DMD

Dr. Jack Fisher completed his orthodontic training at the Medical College of Georgia in 1982. Since then he has been in the full-time practice of orthodontics in Kentucky and Tennessee. He has lectured both in the United States and internationally. He has lecture to many component and state associations. He is a member of the Southern Association of Orthodontics and the American Association of Orthodontists. He is presently a faculty member in the orthodontic department at the University of Tennessee. He has taught a two-day cadaver course for the insertion and use of temporary skeletal anchorage devices for thirteen years. He has written several articles on the use of these devices. He recently has developed and taught a course on the use of CBCTs for the diagnosis and treatment of orthodontic patients.

This lecture will show cases where TSADs were utilized to close open bites. A comparison to the stability of these cases to those cases treated with orthognathic surgery will be made. Emphasis on early treatment and the adolescent patient will also be presented. One case with eight years in retention will also be shown.

Learning Objectives:
- Recognize the patient that is indicated for the use of TSADs in the closure of an open bite.
- Recapitulate the protocol for the placement of the tasks and appliances to close an open bite.
- Manage the retention phase of the open bite patient.

Managing Skeletal Open Bites with the Use of Clear Aligners

Bella Shen Garnett, DMD, MMSc, PC

Dr. Garnett is a graduate of Stanford University and the Harvard School of Dental Medicine, where she received both her dental and orthodontic training. She is Certified by the American Board of Orthodontics and is an Angles Society Affiliate member. Dr. Garnett has a private practice in San Francisco where she treats 50% adults. She has taught Invisalign at the University of the Pacific Arthur A. Dugoni School of Dentistry, is a Diamond Plus provider and lectures for Align, Propel Orthodontics and Orthopulse.

In this lecture, Dr. Shen Garnett will explain how clear aligners can be used to control the vertical, its capabilities and limitations. An overview of stability and mechanics used to close open bites will also be covered. She will also outline a comparison of the effectiveness of clear aligners to fixed appliances and closing open bite.

Learning Objectives:
- Increase confidence in using clear aligners to close open bites.
- Comprehend the biomechanics involved in controlling the vertical.
- Recognize that fixed appliance TADs and surgery is not the only option in closing open bites and the results and stability using clear aligners may be just as good and maybe better.
The Demonstration and Evaluation of Openbite Closure with Aligners

Mazyar Moshiri, DMD, MS, FICD

Dr. Maz Moshiri maintains his private practice in St. Louis, MO alongside his father and sister. In addition to leading multiple Ask the Expert webinars, Dr. Moshiri was a lead educator for Class II Kit solutions for Invisalign, and the Deep Bite Solutions of Invisalign G5. Dr. Moshiri is the founder of The Aligner Intensive Fellowship, a 17 week course teaching clear aligner techniques. He is an Assistant Clinical Professor at the Saint Louis University Center for Advanced Dental Education, where he teaches with a clinical focus on the use of Invisalign. Dr. Moshiri is a Diplomate of the American Board of Orthodontics, and Fellow in both the American and International College of Dentistry.

Financial Interest Disclosure: Consultant (Align Technology)

Through the incipiency of clear aligner treatment, it has been demonstrated that the technique may offer excellent vertical control in the management of hyperdivergent type or anterior open bite malocclusions. Evaluation of techniques used to treat anterior open bites will be discussed in detail, in addition to benefits and detriments of this particular modality. Long-term stability will be evaluated, along with retention considerations.

Learning Objectives:
- Better understand appropriate attachment design and nuances of the digital treatment planning process to effectively manage anterior open bite patients.
- Identify the benefits and potential detriments to the patient if using clear aligners to close anterior open bites.
- Evaluate retention considerations to help improve stability of anterior open bite correction in clear aligner patients.

0.75 CE

Contemporary Multiloop Edgewise Archwire (MEAW) Technique: Old-fashioned but Useful

Tae-Woo Kim, DDS, PhD

Tae-Woo Kim is Professor in Orthodontics, Seoul National University, where he completed his orthodontic specialty training in 1986. He was a visiting professor(1995-7) of University of Washington. He was an editor-in-chief of Korean Journal of Orthodontics (KJO) for many years. He was President of Korea Association of Orthodontists and President of Korean Association of Orthodontists Foundation(4/2014-3/2016). He works as a reviewer or editorial board of KJO, AJODO, and other famous international journals. His focused research fields are TMD, open bite, mini-implants and long-term stability. He was invited as a speaker by more than thirty countries. He is currently member of Angle Society, Northwestern Division.

In 1967, Young H. Kim created the multiloop edgewise archwire (MEAW) to treat open bite malocclusions, which he achieved with great efficiency. Subsequently, Prof. Young-il Chang (Seoul National University, Seoul, Korea) studied the MEAW mechanics to establish the principles. Young H. Kim applied it to all types of malocclusions. MEAW can be constructed with stainless steel 0.016 x 0.022 (bracket 0.018 inch slot) or 018 x 0.022 or 0.017 x 0.025 ss (bracket 0.022 inch slot). The MEAW requires wire bending, which seems very old-fashioned, but it is still very useful in many cases. This lecture will present both old and contemporary cases allowing the audience to easily understand the MEAW techniques.

Learning Objectives:
- Familiarize yourself with the MEAW technique, especially for open bite.
- Identify the indications and contraindication of MEAW techniques.
- Evaluate the procedures of MEAW fabrication and application.

0.75 CE

Buccal Shelf (BS) Screws for Class III Openbite Correction

Chris H. Chang, DDS, PhD

Dr. Chris Chang is the founder of Beethoven Orthodontic Center and Newton’s A Inc. in Hsinchu, Taiwan. He received his PhD in Bone Physiology and Certificate in Orthodontics from Indiana University. He is a diplomate of the American Board of Orthodontics and an active member of Angle Society-Midwest. Dr. Chang is the publisher of Journal of Digital Orthodontics and has authored and co-authored many orthodontic books, including Orthodontics Vols. 1-6, as well as Words of Wisdom, Jobsology and Trumpology. He is also the inventor of OrthoBoneScrews (OBS).

Common anterior open bite corrections include extractions and a variety of appliances, such as, high-pull headgear, bite blocks, and elastics. In more severe cases, orthognathic surgery is required to correct the skeletal malocclusion. While surgery proves to be a reliable treatment option, many patients reject it for the prohibitive cost, pain and long recovery time. Recently, TADs have allowed orthodontists to treat some of these patients without orthognathic surgery through intrusion of the posterior mandibular molars and rotate the occlusal plane. They provide a treatment alternative for mild-to-moderate open bite cases without other skeletal contributing factors. This lecture will demonstrate how to properly identify and eliminate the etiology of anterior open bite and create effective strategies to correct it with buccal shelf (BS) TADs and extractions. After this lecture, you’ll be able to apply BS screws in your daily practice.

Learning Objectives:
- Identify the etiology of anterior open bite.
- Articulate the biomechanics of BS screws in the correction of anterior open bite.
- Locate the buccal shelf and explain steps of BS screw placement.

0.75 CE

Updated 02/03/2020
Long-term Stability of Openbite Correction

Geoffrey Greenlee, DDS, MSD, MPH

Dr. Geoff Greenlee completed his undergraduate and dental training at the University of Michigan, and then completed a Masters degree and clinical residency in orthodontics at the University of Washington. An interest in cleft lip/palate and craniofacial anomalies led Dr. Greenlee to do a fellowship at Seattle Children's Hospital where he remains on faculty and provides clinical care. Dr. Greenlee finished a Master of Public Health degree in epidemiology in 2009 and is very interested in public health services and policy as well as study design and data analysis. Currently, Dr. Greenlee is Clinical Associate Professor and Director of the Graduate Orthodontics Clinic at the University of Washington in Seattle. His research interests include evidence-based care, CLP and craniofacial anomalies, access to care for underserved populations, and quality of life.

Treatment for anterior openbite malocclusion is notorious for being difficult and having high rates of relapse. Many appliances and treatment techniques are available to assist the practitioner in closing an openbite, but reports often lack information on the long-term success of any given treatment. This talk will present a summary of stability reports from across the orthodontic literature, giving clinicians insight into what to expect from the treatments they render.

Learning Objectives:

- Evaluate the evidence about long term treatment of anterior openbite.
- Comprehend the pooled stability estimates for surgical and non-surgical treatment of anterior openbite.
- Counsel anterior openbite patients on what to expect about the stability of their treatment.

Orthodontic Treatment Combined with Maxillary Surgery for Correction of Open Bite

Timothy A. Turvey, DDS

Dr. Turvey is professor and chairman of the Department of Oral and Maxillofacial Surgery at the University of North Carolina and the University of North Carolina Hospitals. His career has been devoted to the surgical care of patients with birth defects affecting the craniofacial region, and he is a participant at the UNC Craniofacial Center. He has published and presented extensively in more than 35 countries and has received numerous teaching and leadership honors and awards, including the AAOMS Donald Osborn Educators Award, the William Gies Award for outstanding contributions to Oral and Maxillofacial Surgery, and the Southeastern Society of Oral and Maxillofacial Surgeons Outstanding Educator Award.

In 1932 Martin Wassmud introduced the concept of LeFort I osteotomy and since that time it has become the "workhorse" in conjunction with orthodontic treatment for the resolution of malocclusions, especially open bite. There are many technical nuances associated with the orthodontic preparation that will be discussed as well when the surgery is combined with coordinated orthodontic care, the long-term outcomes can be favorable. Appropriate diagnosis and patient selection are the keys to success as well as close interdisciplinary working relationships between surgeons and orthodontists.

Learning Objectives:

- Recognize disproportionate jaw growth related to open bite.
- Apply coordinated orthognathic principles to managing open bite with maxillary surgery combined with orthodontic treatment.
- Comprehend the importance of physiological adaptation to maxillary repositioning combined with orthodontic treatment.

A Case for Considering the Mandibular Sagittal Osteotomy in Treating Anterior Openbite

Dale Bloomquist, DDS, MS

Emeritus Associate professor of Oral and Maxillofacial Surgery at the University of Washington; Codirector of the Orthognathic conference at the University of Washington for 35 years; Private practice limited to Orthognathic Surgery

The use of the mandibular sagittal split osteotomy for the correction of anterior openbite is still relatively rare. This bias is generally based on historical experience of treating openbite in the era of using wire osseous fixation and the belief that posterior facial height can not be increased. The stability of using rigid internal screw fixation and bilateral sagittal osteotomies in counterclockwise rotation of the mandibular body now has been demonstrated. Indications for considering a mandibular osteotomy in the correction of anterior openbite will be reviewed.

Learning Objectives:

- Discuss the history of using mandibular osteotomies in the treatment of anterior openbite.
- Understand the research base for using the BSSO in the treatment of anterior openbite.
- List the indications for using BSSO's for counterclockwise rotating the mandibular body.

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Anterior Openbite Correction: Surgery vs. TADs

Jae Hyun Park, DMD, MSD, MS, PhD

Dr. Jae Hyun Park is Professor and Chair of the Postgraduate Orthodontic Program at the Arizona School of Dentistry & Oral Health. He is a Diplomate of and Examiner for the American Board of Orthodontics. Dr. Park has received several awards for scientific and clinical excellence including the Charley Schultz Award (1st Place Winner in the Scientific Category at the Orthodontic Resident Scholars Program) and the Joseph E. Johnson Award (1st Place Winner at the AAO Table Clinic Competition) from the AAO. He also serves as an editorial board member of several peer-reviewed orthodontic and dental journals including The Angle Orthodontist, Seminar in Orthodontics, and Journal of Clinical Orthodontics (JCO) as well as associate editor of American Journal of Orthodontics and Dentofacial Orthopedics (AJO-DO), Journal of World Federation of Orthodontists, and Journal of Clinical Pediatric Dentistry. He was recently invited to be a guest editor of Seminars in Orthodontics. While working as a full-time faculty member since 2008, he has published more than 210 scientific and clinical articles in peer-reviewed orthodontic and dental journals including 4 cover pages in the AJO-DO, 3 cover pages in the JCO, 2 books, and 22 book chapters. He lectures nationally and internationally and represented the AAO at the 2018 ADA Annual Session where he presented a 3-hour lecture. Dr. Park is currently Editor-in-Chief of the Journal of the Pacific Coast Society of Orthodontists (PCSO) Bulletin, Past President of the Arizona State Orthodontic Association, and Thesis Committee Co-Chair of Northern California Edward H. Angle Society of Orthodontists. He also works for NBDE Part II Ortho-Pediatric Dentistry/ADAT Test Construction Committee and CODA Site Visitor. Recently, he was also appointed to the 2021 Scientific Program Chair at the College of Diplomates of the American Board of Orthodontists (CDABO) annual meeting. In addition, he was recently appointed to replace Dr. Steven Dugoni as the American Board of Orthodontics (ABO) Director representing the PCSO. He will be the ABO President in 2024.

Anterior open bite (AOB) can be corrected by orthognathic surgery or orthodontic treatment. Severe skeletal, facial, and functional problems should be corrected by orthognathic surgery, but combining cone-beam computed tomography (CBCT) and temporary anchorage devices (TADs) can provide an efficient and accurate way to correct AOB. Nowadays, by using TADs, we can expand orthodontic boundaries. In this lecture, various clinical applications of TADs and orthognathic surgery will be discussed in challenging AOB cases along with new American Board of Orthodontics (ABO) Scenario-based Oral Clinical Examination domains. After the lecture, clinicians will be able to treat and finish anterior open bite cases more efficiently and successfully while minimizing the chance of relapse.

Learning Objectives:
- Discuss how to prepare the new ABO Scenario-based Oral Clinical Examination in diagnosis and treatment planning, treatment implementation and management, and critical analysis and outcomes assessment in AOB cases.
- Identify clinical situations in which CBCT imaging and TADs are beneficial in AOB correction.
- Evaluate clinical applications and biomechanical considerations of orthognathic surgery vs. TADs in challenging AOB cases.

Anterior Open Bites in Adults: Treatment Success, Satisfaction, and Stability

Greg J. Huang, DMD, MSD, MPH

Dr. Huang is Professor and Chair at the Department of Orthodontics, University of Washington. He attended dental school at the University of Florida, and then earned his Certificate in Orthodontics and MSD from the University of Washington in 1989. He also holds an MPH in Epidemiology from the UW. Dr. Huang is well known as a proponent of Evidence-based Dentistry, and he is co-editor of the textbook Evidence-based Orthodontics, 2nd edition, as well as the 6th edition of Orthodontics: Current Principles and Techniques. Dr. Huang has conducted clinical studies in the regional PRECEDENT network, as well as a study in the National Dental Practice-Based Research Network. He has served as a member of the AAO Council on Scientific Affairs, an orthodontic consultant for CODA, and as Associate Editor of AJODO. He is a member of the AAO, Angle Society, and is a Diplomat of the American Board of Orthodontists.

Dr. Huang will present findings from the National Adult Anterior Openbite Study, which was conducted in the NDPBRN setting. The study enrolled more than 90 practitioners and 347 patients from across the United States. Dr. Huang will describe the success rates associated with 4 major categories of treatment - aligners, fixed appliances, TADs, and orthognathic surgery. He will also discuss practitioner and patient factors related to satisfaction and stability. Finally, he will review the mechanism by which openbites were corrected using the 4 treatment categories, based on cephalometric analyses.

Learning Objectives:
- Describe the frequency of treatments that were recommended to the patients in this study.
- Recognize factors that are related to treatment success and stability.
- Evaluate treatment changes that result in successful treatment of openbite cases.
9:15am-10:00am

Solving the Mystery of the Anterior Open Bite in Adults

David C. Hatcher, DDS, MSc, MRCD(C)

Dr. Hatcher received his DDS degree from the University of Washington, and was granted a specialty degree in Oral and Maxillofacial Radiology and an MSc from the University of Toronto. He is currently in private practice in Sacramento, California and has faculty appointments as a clinical professor at the University of California Los Angeles, University of California San Francisco, University of California Davis, and the University of the Pacific Arthur Dugoni School of Dentistry.

Adult anterior open bites are a particularly difficult diagnostic and treatment scenario that will be explored in this presentation. Evaluating, establishing and maintaining an orthopedically stable occlusion is a foundation piece for the orthodontic practitioner. The interaction of muscles, teeth, jaws and TMJs will be explored with the use of imaging. Key anatomic variables that negatively influence occlusion will be singled out and discussed in this presentation.

Learning Objectives:
- Develop a differential diagnosis and decision tree for adult anterior open bites.
- Identify the discriminating features for each open bite cause.
- Develop strategies to determine if the open bite cause is stable or active.

10:30am-11:15am

Silver-Bullet Breakthrough? Mandibular Autorotation Concept (MAC) Surgery: Rationales and Outcomes

Takashi Ono, DDS, PhD

Dr. Takashi Ono has been Professor and Chairman of the Department of Orthodontic Science, Graduate School Tokyo Medical and Dental University (TMDU), Tokyo, Japan since 2010. He is the Vice Director of the TMDU Dental Hospital. From 1991 to 1994, he was a Research Fellow of the Japan Society for the Promotion of Science, and served as a Visiting Clinical Assistant Professor and Postdoctoral Fellow at the University of British Columbia, Vancouver, Canada. From 2000 to 2001, he studied at the University of Copenhagen, Denmark as a Short-term Fellowship Scholar of Japanese Ministry of Education, Culture, Science & Technology (MEXT) in Japan. Prof. Takashi Ono works as a Visiting/Adjunct Professor at 10 domestic as well as international universities. He also serves as an editorial board member for 8 international peer-reviewed journals. Prof. Ono has published 8 book chapters and more than 230 articles related to orthodontics, craniofacial function/dysfunction, sleep-related respiratory disorders, and brain activity. In 2018, He received the IADR/AADR Williams J. Gies Award. He is currently a member of the Executive Committee of the World Federation of Orthodontists (WFO) and serves as the Chairman of the 9th International Orthodontic Congress (IOC) in Yokohama, Japan in 2020.

Osteoarthritis of the temporomandibular joint causes marked retrusion of the mandible and open bite. To date, several surgical orthodontic treatment modalities have been performed, but prognosis and postoperative stability are poor, because of relapse and condylar resorption. Mandibular autorotation concept (MAC) surgery performed at our hospital is a broad term to describe the series of orthognathic surgery utilizing an intentional mandibular autorotation. In this presentation, I would like to share with you the backgrounds and effectiveness of the MAC surgery with the basic and clinical data.

Learning Objectives:
- Explain the backgrounds of orthognathic treatment of mandibular retrusion and open bite due to condylar changes.
- Recognize the rationales to propose the orthognathic treatment using mandibular autorotation concept (MAC) surgery.
- Evaluate the reproducibility and stability of orthognathic treatment using MAC surgery.

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