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Welcome Message

On behalf of the World Implant Orthodontic Association, it is with great joy to congratulate you on the success of the 2nd WIOC in conjunction with the 22nd Annual meeting of the Taiwan Association of Orthodontists in the beautiful city of Taipei. A decade ago, orthodontists from Taiwan, Japan and Korea who foresaw the significance of bone anchorage came together to discuss the evidence based on research and its clinical applications in the name of the Asian-Pacific Implant Conference (APOC). From its first conference in Korea, the APOC became an annual meeting hosted by the three countries for the last 10 years.

With the increasing interest in bone anchorage, we decided to broaden our spectrum worldwide and to share cutting-edge information with the top leading orthodontists in the field. The first World Implant Orthodontic Conference (WIOC) was held in Seoul, Korea in 2008, which I believe initiated a new paradigm for future orthodontics.

During the last 10 years, all of us involved in the meeting not only shared the knowledge on bone anchorage but also became good partners in leading contemporary orthodontics.

I dearly appreciate the endless dedication and belief of every board member of the member countries. We should be proud of our work and how the WIOC has affected orthodontics worldwide.

Lastly, I thank the board members of the Taiwan Association of Orthodontists and the executive members of the WIOA for their efforts to host a successful meeting.



Young Chel Park, DDS, Ph.D

President of the WIOA



Welcome Message from the President of 2nd WIOC

Welcome to the 2nd World Implant Orthodontic Conference (WIOC)! We are pleased that you were able to join us for what we believe will be an outstanding conference in this beautiful and inspiring city, Taipei.

This is not the first time that Taiwan and Taiwan Association of Orthodontists are being hosted international orthodontic conferences, and we are making sure that this is one you can not possibly forget. We guarantee at the same time you will enjoy the hospitality, friendship, and culture of Taiwan.

By featuring the conference theme of "World Trends of Anchorage Developments—TADs", the dedicated team of organizing committee of the 2nd WIOC has worked hard to line up the best speakers in the world of orthodontics for a stimulating and outstanding program. We have invited 48 prestigious speakers from 16 countries in Asian Pacific, Middle East Asia, Europe, North America, and South America. The program consists of two days of professional activities including keynote speeches, oral presentations, and poster presentations that will inform on the latest trends in the development of orthodontic temporary anchorage devices, and will bring many opportunities to broaden your spectrum of daily practice in what is not possible today and will likely be possible in coming years. We believe you will find much of value in this conference on how to achieve goals in clinical techniques and academic knowledge in implant orthodontics.

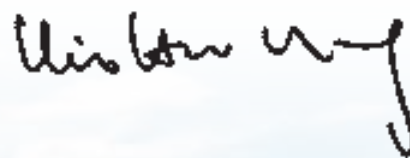
In addition to academic and clinical knowledge, however, there are multiple opportunities to receive personal inspiration and expand your sense of fulfillment in every area of life. The 2010 Taipei International Flora Exposition, featuring a theme of "Rivers, Flowers, New Horizons," is set to open in the city of Taipei at the same time during this conference. It is the first such internationally-recognized exposition to take place in Taiwan and the seventh of its kind to take place in Asia. It is our sincere hope that you will be able to enjoy spirit of life, beauty of rivers and flowers, and to explore new horizons at the 2010 Taipei International Flora Exposition.

I hope you will join in the many opportunities for fun and relaxation during the conference. All involved in organizing this conference can promise your visit to Taipei and the attendance of the 2nd WIOC will produce unforgettable memories and pleasant experiences.



Eric Liou, DDS, MS

President, the 2nd WIOC



Chin-Huei Horng, DDS, MS

President, Taiwan Association of Orthodontists



Congratulatory Words to the Taiwan Association of Orthodontists



As WFO President, and in the name of my Executive Committee, I wish to congratulate Dr. Chin-huei Horng, President of the Taiwan Association of Orthodontists, his Board of Trustees, his meetings organizing committees and all those who helped bring to fruition the magnificent 22nd Annual TAO National Meeting and the important 2nd World Implant Orthodontic Conference, in Taipei, Taiwan. This achievement highlights how prominent the TAO has recently become in the orthodontic world. The WFO is very proud to have within its organization such a hard working affiliate.

I am aware that Taiwan now has 14 institutes/accredited orthodontic programs educating the new generation of orthodontists. The Taiwan Orthodontic Education System is getting stronger as the years go by. The new generations of orthodontists are different from the previous ones in that they do not need to go abroad to the USA, Japan or Europe to learn orthodontics. I sincerely encourage all the TAO members to actively participate in international orthodontic academic activities to increase the standard of orthodontic care, to meet members of other orthodontic Associations/Societies, and to make the future orthodontic world a better one.

The WFO supports its affiliates, such as the TAO, in many ways; one is by promoting the meetings they organize. In turn, WFO also needs the support from all its affiliates. Allow me to state the following regarding the WFO. It has specific objectives; among them are to: elevate the standard of orthodontic care around the world, promote scientific research, disseminate orthodontic knowledge, stimulate accreditation and certification, and support bona fide orthodontists. Only those orthodontists who are active members of their affiliates are accepted as WFO members. I encourage all attendee orthodontists at this meeting who are members of a national orthodontic society affiliated with the WFO to become fellows of the WFO. This process is easy, not expensive, and it will help advance the orthodontic specialty throughout the world. The membership application form can be downloaded from WFO's website, www.wfo.org

As President of the WFO I wish all Taiwan orthodontic colleagues to improve the standard of care they provide to their patients. Thus, I urge you to take advantage of the scientific lectures presented during your Meeting and Conference. The TAO already has established its Orthodontic Board System (TBO). The TBO has a representative in the WFO Committee on National and Regional Orthodontic Boards. With the help of TBO and the other 14 representatives from orthodontic boards around the world, this WFO Committee has developed and published guidelines to aid in setting up national and regional certifying boards (including examination criteria). The WFO will continue to promote these efforts. I wish to encourage each one of you to become certified orthodontists through the Taiwan Board of Orthodontics so that every TAO member can be recognized as a doctor who strives for self-improvement in the quest to become a better orthodontist.

The TAO established in July 2009 a program to assist underprivileged children, a project to help mainly orphans so they can receive free orthodontic care. Please accept my congratulations on this achievement. I sincerely wish that all the TAO members will support this project and also the project of the Taiwan Association of Orthodontists Foundation to help the TAO in orthodontic research to meet the challenges of tomorrow's orthodontic world.

As President of the WFO, I recognize the contributions that TAO has made to the world of orthodontics; it is a very important affiliate of the WFO. I sincerely hope that the new TAO President, together with the new TAO Board of Trustees, will continue to support the WFO in making the orthodontic world a better one.

I wish the TAO great success during the 22nd TAO National Annual Meeting and the 2nd WIOC. To the attendees of these two great meetings, I wish you the best in your future endeavors.

Roberto Justus

Dr. Roberto Justus

WFO President



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General Information

Intellectual Property Protection Policy

Audio- / video-recording or photo-taking during the lectures in the auditorium is strictly prohibited during the conference. The organizing committee has the right to revoke attendee's registration status after repeated reminders. Please, do respect lecturers' intellectual properties.

Badge Claim

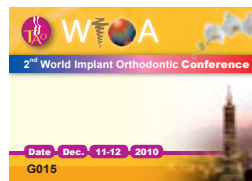
Registration is required during the conference. The organizing committee will issue each attendee a name badge according to his/ her registration status. Attendee will be granted to enter auditorium and/ or trade exhibition hall with the name badge. Badges are color-coded to according to different registration status, which are shown as follows.

Doctor

Dec.10



Dec.11-12



Accompany Person



Lunch / Refreshments

Lunch service is available from 12:30~13:30 at 3 Floor during the conference. A lunch box will be provided upon the use of a lunch coupon, which is enclosed in the name badge. During the coffee breaks, refreshments will be provided in the trade exhibition area (Room 201).

Speakers Preview Room

Preview Room is allocated in Room 105. This room is open to speakers exclusively, and each speaker may use this room within two hours prior to his/ her lecture time. The open hour for the preview room is from 8:30 to 16:30 daily during the conference.

CME Accreditation

The organizing committee will issue 39 credits according to the regulation of Department of Health, Executive Yuan, R.O.C. (Taiwan).

Certificate of Attendance

A certificate of attendance will be issued upon registration if attendee has pre-registered. For any on-site registration attendee, the certificate of attendance will only be available at the end of the conference. No certificate will be issued after the conference.

Cyber Cafe

Cyber Cafe is allocated in TICC Cozy Corner with complimentary coffee and Internet connection.

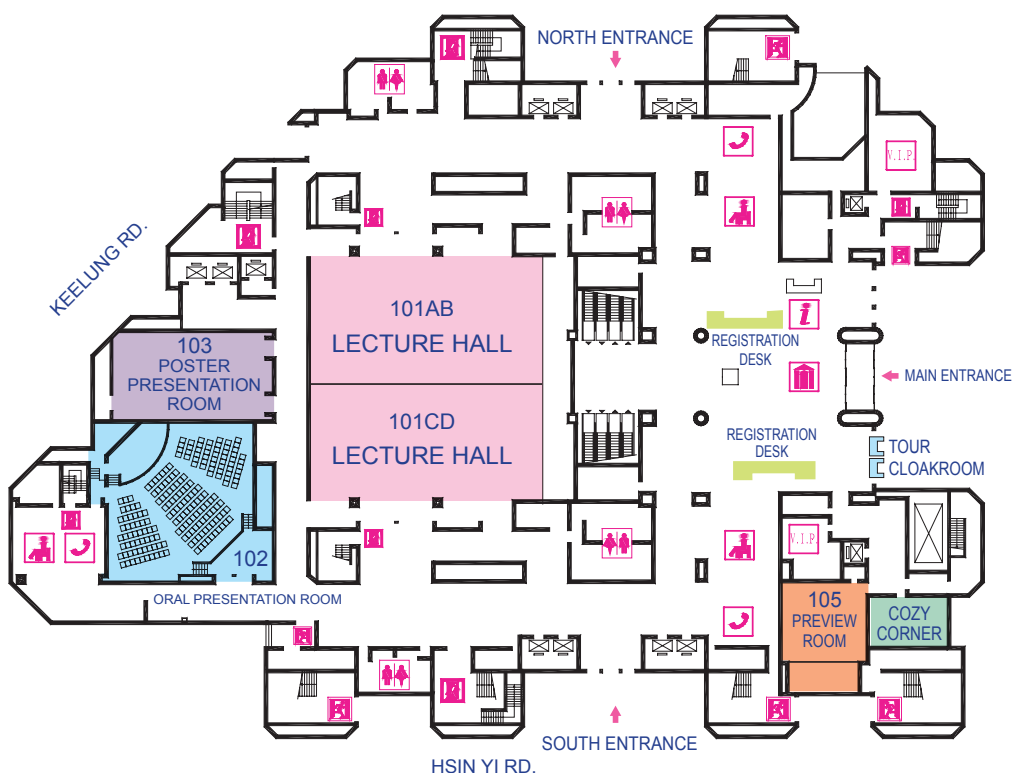
Cloakroom Service

The cloakroom is next to the international registration desk. It will be open from 8:30 to 17:30 daily during the conference. The organizing committee only provides storage service, and we are not liable to any damage of baggage or goods.

Location Map



Floor Plan 1st F



Opening Ceremony

Saturday, 11 Dec. 2010

Room 101AB, G/F., Taipei International Convention Center

10:05 am

Delegates and Guests to be seated

10:10 am

Opening Address by the President of the 2nd World Implant Orthodontic Conference

Dr. Eric Jein-Wein Liou

10:13 am

Welcome Remarks by the President of World Implant Orthodontic Association

Dr. Young Chel Park

10:16 am

Address by the Secretary General of World Federation of Orthodontists

Dr. William H. Dekock

10:19 am

Address by the President of American Association of Orthodontists

Dr. Lee Graber

10:22 am

Address by the President of Asia Pacific Orthodontic Society

Dr. Loh Kai Woh

10:25 am

Vote of Thanks by the President of Taiwan Association of Orthodontists

Dr. Ching-Huei Horng

10:28 am

Introduction of the 3rd World Implant Orthodontic Conference

Dr. B. Giuliano Maino

End of Ceremony (10:30 am)

TAO National Annual Meeting Timetable

Friday, Dec. 10 (TAO 22 nd National Annual Meeting Timetable)				
Time	Speaker	Chairperson	Speaker	Chairperson
Room 101AB		Room 101CD		
08:00~09:00	Registration			
09:00~09:30	TAO-01 Dr. Tsung-Ming Chuang (莊宗明) Vertical Control in Orthodontics	Dr. Chiung-Shing Huang (黃炯興)	TAO-10 Dr. Tzu-Ying Wu (吳姿瑩) Anchorage Preparation for Molar Protraction	Dr. Chi-Yang Tsai (蔡吉陽)
09:30~10:00	TAO-2 Dr. Hong-Po Chang (張宏博) Various Anchorages with Orthodontic Mini-Implants	Dr. Wei-Yung Hsu (許為勇)	TAO-11 Dr. Chih-Hsien Wu (吳致賢) Innovating Concept of Damon Anchorage	Dr. Hsin-Fu Chang (張心浚)
10:00~10:30	TAO-03 Dr. Ming-Guey Tseng (曾明貴) Anchorage-The Sword in the Stone!		TAO-12 Dr. Ellen Wen-Ching Ko (柯雯青) Discover the Functional Factors Which Affect Anchorage Preparation	
10:30~11:00	Coffee Break			
11:00~11:30	TAO-04 Dr. Glenn T. Sameshima Anchorage Strategies without TADs	Dr. Huei-Mei Tsai (蔡惠美)	TAO-13 Dr. Yi-Jane Chen (陳羿貞) Mini-Implants Anchorage Considerations in Orthodontic Treatment of adult Class III Malocclusions	Dr. Sheng-Yang Lee (李勝揚)
11:30~12:00	Dr. Hyo-Won Ahn Diverse Approaches: Advancement of Midface for Crouzon Syndrome Patients	Dr. Tateshi Hiraki	TAO-14 Dr. Hsin-Kuang Chen (陳信光) Anchorage Consideration for Orthodontic Implant Site Development	Dr. Hai-Yuan Lai (賴海元)
	Dr. Taehyun Choi Vertical Control Via Total Arch Movement in Hyperdivergent Growing Patients			
12:00~12:30	Dr. Tae-hun Kwon A Case Report of Unilateral Lingual Posterior Crossbite and Class II Malocclusion Correction with Mini-Implants		TAO-15 Dr. Kuang-Dah Yeh (葉光大) Application of TADs as Anchorage in Lingual Orthodontics	
12:30~13:30	Lunch			
13:30~14:00	TAO-05 Dr. Junichiro Iida (飯田順一郎) Tooth Movement Versus Anchorage	Dr. Hong-Po Chang (張宏博)	TAO-16 Dr. Jian-Hong Yu (余建宏) Consideration of Intraoral Anchorage (IOA)	Dr. Chia-Tze Kao (高嘉澤)
14:00~14:30	TAO-06 Dr. Koutaro Maki (槇宏太郎) Reconsideration about Anchorage Value and Movement Velocity	Dr. Toshihisa Yamazaki	TAO-17 Dr. Yen-Peng Chen (陳彥朋) Facial Improvement and Anchorage Considerations	Dr. Chi-Wen Chen (陳季文)
14:30~15:00	TAO-07 Dr. Keiji Moriyama (森山啟司) Mechanodynamics and Biological Responses in Distraction Osteogenesis of the Maxilla		TAO-18 Dr. Hui-Lin Chen (陳惠林) Anchorage Preparation in Different Tooth Movement Technique (Tip-Edge Plus)	
15:00~15:30	Coffee Break			
15:30~16:00	TAO-08 Dr. Komori Akira (小森成) Precision Direct Bonding with KommonBase	Dr. Hsin-Chung Cheng (鄭信忠)	TAO-19 Dr. Shou-Hsin Kuang (況守信) Anchorage Preparation with Differential Moment Mechanics	Dr. Ming-Jeaun Su (蘇明圳)
16:00~16:30	TAO-09 Dr. Ming-Hsien Lan (藍明賢) TADs, beyond TADs	Dr. Wind-Show Cheng (鄭文韶)	TAO-20 Dr. Hoi-Shing Luk (陸開盛) Anchorage- It Is All about Force System!!	Dr. Chun-Chieh Yang (楊俊杰)
09:00~16:30	Poster Presentation (Room 103). Exhibition of dental products and commercial items (Room 201)			
16:30~17:30	TAO anniversary meeting & election(Room 102)			

* The sessions in yellow column will be delivered in English. The rest of the speeches will be delivered in Chinese.

2nd WIOC Scientific Program Timetable

Saturday, Dec. 11 (2 nd WIOC Scientific Program Timetable)				
Time	Speaker	Chairperson	Speaker	Chairperson
	Room 101AB		Room 101CD	
08:00~09:00	Registration			
09:00~09:30	WO-01 Dr. Chih-Peng Su (蘇志鵬) The Past, Present and Future of Implant Orthodontics	Dr. Lee W Graber	WO-12 Dr. Junji Sugawara Non-Surgical Treatment for Various Skeletal Malocclusions with Skeletal Anchorage System	Dr. Keiji Moriyama Dr. Eugene Roberts
09:30~10:00	WO-02 Dr. Birte Melsen World Trend of Anchorage Development-TAD	Dr. Ching-Huei Horng (洪清暉)	WO-13 Dr. Won Moon Extreme Orthodontics: Application of Micro-Implant for Orthopedic Correction	
10:00~10:30	Opening Ceremony & Special lecture by Dr. William H. DeKock			
10:30~11:00	The World Federation of Orthodontists: Past, Present and where we are going in the future (Followed by 15 min Coffee Break)			
11:00~11:30				
11:30~12:00	WO-03 Dr. Dror Aizenbud The Combined Orthodontic and Surgical Management of the Alveolar Ridge Augmentation Using Distraction Osteogenesis and TADs.	Dr. Birte Melsen Dr. George Anka	WO-14 Dr. Eugene Roberts Dentofacial Orthopedic Correction of Complex Malocclusions with Osseointegrated TADs and ISPs	Dr. Junji Sugawara Dr. John Jin-Jong Lin (林錦榮)
12:00~12:30	WO-04 Dr. Somchai Manopatanakul World Trendiest TAD: Beautiful Face First		WO-15 Dr. Jorge Faber Anticipated Benefit – Elimination Conventional Orthodontic Preparation for Orthognathic Surgery	
12:30~13:30	Lunch			
13:30~14:00	WO-05 Dr. Jane Chung-Chen Yao (姚宗珍) Lessons Learned from Animal Experiments for Using Miniscrews	Dr. Teruko-Takano Yamamoto Dr. Koutaro Maki	WO-16 Dr. Joong-Ki Lim Mandibular Whole Dentition Distal Movement Using Mini Implant	Dr. Junichiro Iida Dr. B. Giuliano Maino
14:00~14:30	WO-06 Dr. Chung How Kau 3D Imaging and It's Role in Implant Planning in Orthodontics		WO-17 Dr. John Jin-Jong Lin (林錦榮) Whole Arch Distalization	
14:30~15:00	WO-07 Dr. Peter Ngan Can 3-D Modeling and Finite Element Analysis Be Used as Clinical Tools for Planning Miniscrew Placement?		WO-18 Dr. Cheol-Ho Paik En Masse Movement of Whole Dentition Using Orthodontic Miniscrew Implant-Alveolar Housing Is the Name of the Game	
15:00~15:30	Coffee Break			
15:30~16:00	WO-08 Dr. M. Ali Darendeliler New Advances in Posterior Intrusion and Mini-Screw Design	Dr. Jose Rivera Dr. Peter Fowler	WO-19 Dr. Kelvin Foong Success Factors in Orthodontic Anchorage with Temporary Anchorage Devices	Dr. Somchai Satravaha Dr. Roberto Tan
16:00~16:30	WO-09 Dr. Hsin-Chung Cheng (鄭信忠) Preparation of Optimal Design and Surface Functionalization on Metal-Based Mini-Implants in Vitro		WO-20 Dr. Benedict Wilmes How to Improve Stability, Versatility, and Success Rates Using a Mini-Implant System with Exchangeable Abutments	
16:30~17:00	WO-10 Dr. Satoshi Kozato The Practical Application of Temporary Skeletal Anchorage Device (TSAD) in Dental and Maxillofacial Fields		WO-21 Dr. Seong-Hun Kim Do Partial Osseointegration Based C-Implant Remain Stationary after Biocreative Therapy?	
17:00~17:30	WO-11 Dr. Loh Kai Woh With a Little Bit of Help from My Friend		WO-22 Dr. Om P Kharbanda Implant and Host Related Considerations for the Success of Miniscrew Treatment	
09:00~17:30	Poster Presentation (Room 103). Exhibition of dental products and commercial items (Room 201)			
18:30~21:00	Gala Dinner			

* All the speech in 2nd WIOC will be delivered in English.

Sunday, Dec. 12 (2 nd WIOC Scientific Program Timetable)				
Time	Speaker	Chairperson	Speaker	Chairperson
	Room 101AB		Room 101CD	
08:00~09:00	Registration			
09:00~09:30	WO-23 Dr. Dennis Lim The Different Wonders of Mini-Screw Implant – an Adjunct to Orthodontic Treatment Mechanics	Dr. Loh Kai Woh Dr. Sang-Cheol Kim	WO-36 Dr. Shingo Kuroda Treatment Strategy Using TADs for Adult Class III Malocclusions	Dr. William H. DeKock Dr. Yasuhiko Asai Dr. Md. Zakir Hossain
09:30~10:00	WO-24 Dr. Jang Yeol Lee Working out an Altered Strategy for Extraction Based on Skeletal Anchorage System		WO-37 Dr. Yasoo Watanabe Treatment of High-Angle Class II Cases Using Implant Anchors	
10:00~10:30	WO-25 Dr. Noriaki Yoshida Biomechanical Principles Applied to Implant Orthodontics: Achieving High Therapeutic Efficiency		WO-38 Dr. Cesare Luzi Combining No-Compliance and Skeletal Anchorage Strategies for Efficient Class II Treatment	
10:30~11:00	Coffee Break			
11:00~11:30	WO-26 Dr. Aldo Giancotti Ideal Applications of T.A.D.s in Orthodontics: a Biomechanical Point of View	Dr. Girish Karandikar Dr. Noriaki Yoshida	WO-39 Dr. Hideo Suzuki State of the Art of Brazilian Miniscrews	Dr. Sheraz Burki Dr. Young Guk Park
11:30~12:00	WO-27 Dr. B. Giuliano Maino Available Sites and Biomechanic Needs in the Use of Miniscrews: limits and New Possibilities		WO-40 Dr. Shigeru Murai Benefits of Implant Anchors	
12:00~12:30	WO-28 Dr. Hee-Moon Kyung Fact & Fallacy of Skeletal Anchorage in Orthodontics		WO-41 Dr. Korrodi Ritto The Micro-Implant Pearl Concept	
12:30~13:30	Lunch			
13:30~14:00	WO-29 Dr. Johnny Joung-Lin Liaw (廖炯琳) An Effective Treatment Strategy for High Angle Protrusion Cases	Dr. Shalene Kereshanan	WO-42 Dr. Teruko Takano –Yamamoto Orthodontic Treatment Using Mini-Screw Anchorage for Patients with Temporomandibular Joint Dysfunction	Dr. Kazuo Tanne Dr. Halim Himawan
14:00~14:30	WO-30 Dr. Young Chel Park Rationale of Mini-Implants Application in Vertical Problems		WO-43 Dr. Masato Kaku Treatment of Temporomandibular Joint Disorders Using Miniscrew Anchorage	
14:30~15:00	WO-31 Dr. James Cheng-Yi Lin (林政毅) Ultimate Vertical Dimension Control Using Implant Anchorage for Long Face Partly Edentulous Patients		WO-44 Dr. Eung-Kwon Pae Handling Breathing-Compromised Cases Using Mini-Implants	
15:00~15:30	Coffee Break			
15:30~16:00	WO-32 Dr. Kwangchul Choy Minimalism in Orthodontics Using FRC and TAD	Dr. Young Chel Park Dr. Noraini binti Hj. Alwi	WO-45 Dr. Kazuo Tanne A Significance of Molar Intrusion in the Treatment of Open Bite with Vertical Skeletal Discrepancy: Treatment Strategy Derived from the Etiologic Consideration	Dr. Amjad Mahmood Dr. VicPerly Wong
16:00~16:30	WO-33 Dr. Junji Ootani Innovation of Implantation Method and Instruments in Self-Drilling Screw to Achieve Highly Success Rate		WO-46 Dr. Chris HN Chang (張慧男) Tough Impacted Teeth Made Easy	
16:30~17:00	WO-34 Dr. Tomio Ikegami The Hybrid Orthodontic Treatment System (HOTS)		WO-47 Dr. Kee-Joon Lee Four-Dimensional Total Arch Movement – Possibilities and Limitations	
17:00~17:30	WO-35 Dr. Shalene Kereshanan Mini-Implants- An Adjunct to Everyday Orthodontic Practice		WO-48 Dr. Eric Jein-Wein Liou (劉人文) Orthodontic Management of 3-Incisors	
09:00~17:30	Poster Presentation(Room 103). Exhibition of dental products and commercial items(Room 201)			

* All the speech in 2nd WIOC will be delivered in English.

TAO Oral Presentations

Friday, Dec. 10 / Room 102

No.	Time	Name	Topic	Chairperson
Clinical Group				
1	9:00	Li-Fang Hsu (徐儷芳)	應用骨性錨定治療三級異常咬合合併前牙開咬病例	Dr. Yih-Wen Chen (陳以文) Dr. Jia-Kuang Liu (劉佳觀)
2	9:15	Yi-Sheng Chen (陳易聖)	前牙開咬之非手術性矯正成人病例	
3	9:30	Sok-Heng Chin (陳淑賢)	微創下巴術達到三贏的局面 - 牙矯及整外兩科合作	
4	9:45	Hui-Yi Chen (陳慧怡)	矯正配合正顎手術治療安格氏第二類咬合 - 病例報告	
5	10:00	Shu-Yin Chao (趙書瑩)	三級咬合異常成人病例的前牙錯咬矯正與牙齦移植術	
6	10:15	Hsuan-Yi Hsiao (蕭璇憶)	以非手術方法治療骨性二級咬合異常合併前牙開咬及顛顎關節炎病例	
	10:30-11:00	Coffee Break		
7	11:00	Siu-Lung Tse (謝兆隆)	前牙錯咬骨性三級異常咬合成年病例之傳統矯正治療	Dr. Chin-Yu Chiang (蔣金玉) Dr. Yun-Yun Wu (吳蘊蘊)
8	11:15	Shiau-Lee Liew (劉曉麗)	利用迷你植體進行大臼齒之整體移動 - 病例報告	
9	11:30	Ying-Chi Hsu (許瑛祺)	合併迷你植體以固定矯正器治療安格氏第二類第一型態不正咬合	
10	11:45	Yun-Ting Chen (陳筠婷)	以上顎快速擴張器及面弓和迷你植體代償性矯正治療第三類骨性異常咬合之病例報告	
11	12:00	Hui-Lan Chang (張慧蘭)	混合牙列期之不拔牙病例報告	
	12:30-13:30	Lunch		
*	13:30	Yu-Ting Chiu (邱鈺婷)	Initial Cleft Severity Is Related to Maxillary Growth in Patients with Complete Unilateral Cleft Lip and Palate 陳坤智教授獎學金得獎論文	Dr. Wen-Ken Tai (戴文根)
*	13:45	Yu-Ching Wang (王聿靖)	Changes in the Morphology of Mandibular Symphysis Secondary to Pre-Surgical Dental Decompensation in Class III Malocclusion 本會雜誌「九十八年度研究論文類最佳論文獎」	
Research Group				
1	14:00	Kuan-Yen Peng (彭冠諺)	應用人類羊膜輔助牙根覆蓋之動物實驗模式研究	Dr. Yi-Jane Chen (陳羿貞)
2	14:15	Chao-Hsuan Sun (孫釗炫)	磁性冷凍下冷凍保護劑浸泡時間與牙髓組織接觸面積對冷凍保存效益之影響	
3	14:30	Jia-Li Chen (陳佳立)	顴下嵴及頰棚矯正骨釘施打位置骨厚度之測量	
4	14:45	Hao-Ming Chiu (邱浩銘)	有限元素法比較單螺紋與雙螺紋矯正迷你植體之生物機械性質	
5	15:00	Chuan-Yang Chang (張川陽)	以有限元素分析法解析黏著位置對阻生彎曲門齒之療效	

TAO Outstanding Junior Doctor/ Investigator Competition

Saturday, Dec. 11 / Room 102

No.	Time	Name	Topic	Chairperson	
Research Group					
1	11:45	Ting-Ting Wu (吳婷婷)	Cephalometric Craniofacial Characteristics with Different Types of Tooth Missing in Patients with Unilateral Cleft Lip and Palate	Dr. Ying-Kwei Tseng (曾應魁) Dr. Ching-Ming Su (蘇靜明)	
2	12:00	Yi-Chin Wang (王依靜)	Gingivoperiosteoplasty Outcome for Treatment of Alveolar Clefts in Patients with Unilateral Cleft Lip and Palate		
3	12:15	Alice H.L. Shen (沈心嵐)	Physiological Mechanisms of the Postoperative Accelerated Orthodontic Tooth Movement after Orthognathic Surgery		
	12:30-13:30	Lunch			
4	13:30	Yuh-Jia Hsieh (謝育佳)	Three-Dimensional Evaluation of Pharyngeal Airway after Bimaxillary Surgery for Skeletal Class III Deformities	Dr. Hui-Lin Chen (陳惠林)	
5	13:45	Ya-Ying Teng (鄧雅音)	Submucosal Injection of Platelet Rich Plasma Accelerates Orthodontic Tooth Alignment		
6	14:00	Guo-Wei Huang (黃國維)	Magnetic Cryopreservation on Mesenchymal Stem Cells Derived from Dental Pulp	Dr. Jian-Hong Yu (余建宏)	
7	14:15	Chen-Jung Chang (張禎容)	The Influence of Bracket Types, Wire Alloys, and Different Oral Environment Condition on Frictional Resistance		
8	14:30	Shu-Chun Tsai (蔡淑琄)	Regulation of MMP-3 Promoter in Mouse Osteoblasts under Cyclic Compression Force Stimulation		
	14:45-15:15	Coffee Break			
Clinical Group					
1	15:15	Ya-Ting Wang (王亞婷)	Correction of Class II Hyperdivergent Facial Pattern Using Temporary Anchorage Device	Dr. Jau-Ren Hu (胡兆仁) Dr. Chih-Chen Chou (周志真)	
2	15:30	Jiun-Hao Lin (林俊豪)	Orthodontic Correction of Anterior Openbite in Skeletal Class II Malocclusion		
3	15:45	Pi-Huei Liu (劉必慧)	Treatment of Bilateral Impacted Maxillary Canine with Unilateral Transposition of Lateral Incisor and Canine - A Case Report		
4	16:00	Yi-Shiou Chen (陳怡秀)	Orthodontic Treatment Combined with Two-Jaw Orthognathic Surgery for Class III Malocclusion- A Case Report		
5	16:15	Yi-Hsuan Chen (陳怡璇)	Combined Fronto-Facial Monobloc Distraction Osteogenesis and Orthognathic Surgery in a Patient with Crouzon Syndrome - A Case Report		
6	16:30	Yea-Ling Yang (楊雅玲)	Dental and Skeletal Correction of Möbius Syndrome - A Case Report		
7	16:45	Kai-Lung Wang (王凱隆)	Treatment of Skeletal Class III with Anterior Open Bite through Skeletal Anchorage		
8	17:00	Wei-Min Yang (楊瑋民)	Correction of Anterior Open Bite Malocclusion - A Case Report		
9	17:15	Yin-Tai Chen (陳英代)	The Use of Miniscrew, HPJH and Autotransplantation in a Class I Malocclusion		
10	17:30	Chih-Yu Lin (林芝瑜)	Treatment of Anterior Crossbite with Upper Second Premolar Impactions - A Case Report		

The presentations are presented in Chinese or English.

WIOC Oral Presentations

Sunday, Dec. 12 / Room 102

No.	Time	Country	Name	Topic	Chairperson	
1	9:00	Brazil	Aguinaldo Garcez	Effects of Low Intensity Laser Therapy over Mini-Screw Success Rate	Dr. Jane Chung-Chen Yao (姚宗珍) Dr. Hsin-Kuang Chen (陳信光)	
2	9:15	Japan	Toru Deguhi	Labial and Lingual Bracket with or without Miniscrew		
3	9:30	Korea	Jeong-Sub Lee	TADs for Total Arch Movement: Miniimplant vs. Miniplate		
4	9:45	Thailand	Eduardo Yugo Suzuki	En Masse Distalization with an iPanda		
5	10:00	USA	Madhur Upadhyay	Dentoskeletal and Soft Tissue Treatment Effects of Two Different Methods for Treating Class II Malocclusions		
6	10:15	India	Sabarinath V.P	Identifying Individuals with Higher Risk of Root Dehiscence during Mandibular Retraction Using TADs		
	10:30-11:00	Coffee Break				
7	11:00	Taiwan	Yi-Hung Shih (石伊弘)	Severe Gummy Smile and Class II Correction by Using Miniscrews	Dr. Li-Hsiang Lin (林利香) Dr. Ellen Wen-Ching Ko (柯雯青)	
8	11:15	Taiwan	Emma Yuh-Jia Hsieh (謝育佳)	Determined Features for a Satisfactory Facial Profile in Class III Camouflage Orthodontic Treatment with Miniscrew Anchorage		
9	11:30	Taiwan	Ting-Ting Wu (吳婷婷)	Use of Miniscrew Anchorage to Enhance Efficiency of Scissors-Bite Correction		
10	11:45	Taiwan	Alice Hsin-Lan Shen (沈心嵐)	Treatment of Class II Division 1 Malocclusion by TADs		
11	12:00	Taiwan	Yueh-Tse Lee (李岳澤)	Nanoporous Structures of an Anodized Orthodontic Miniscrew		
12	12:15	Taiwan	Jiann-Chyou Chang (張箭球)	An Easy Method to Correct Gummy Smile and Anterior Teeth Lingual Root Torque with TADs		
	12:30-13:30	Lunch				
13	13:30	India	Prasad Koteswara NKK	Temporary Anchorage Device (TADs) and its Craniofacial Orthodontic Applications - A Case Report	Dr. Shou-Hsin Kuang (况守信) Dr. Hsin-Yi Lo (羅信義)	
14	13:45	Taiwan	Tzu-Ying Wu (吳姿瑩)	Survival Analysis for Mini-Implants: A Retrospective Investigation of 379 Cases in Taiwan		
15	14:00	Taiwan	Tai-ting Lai (賴泰廷)	A Clinical Evaluating the Potential Failure Factors of TADs		
16	14:15	Taiwan	Ya-Ying Teng (鄧雅音)	Double-Dentition Molar Intrusion with TADs Achieves Better Chin Projection in Class II High Angle Patients		
17	14:30	Taiwan	Yi-Chin Wang (王依靜)	Orthodontic Management to Minimize Residual Alveolar Cleft by Using Miniscrews in an Adult Patient with Bilateral Cleft Lip and Palate		
18	14:45	USA	Sumit Yadav	Osseointegration Potential of Four Implant Surfaces		

TAO Poster Presentations

Room 103

No.	Name	Topic
T01	Chien-Nong Mao (毛健農)	以下顎雙側迷你植體治療前牙開咬合併錯咬病例
T02	Shin-Huei Wang (王欣惠)	第三級咬合異常合併骨性開咬之單顎手術治療
T03	Pi-Huei Liu (劉必慧)	牙周補綴矯正協同治療—完全頰側錯咬之骨性二級咬合異常病例
T04	Tai-Yu Shen (沈泰宇)	葡萄糖胺對拔牙後齒槽修復之影響：動物實驗初期評估
T05	Kai-Lung Wang (王凱隆)	運用臼齒拔除與骨性錨定治療前牙開咬 - 病例報告
T06	Yin-Tai Chen (陳英代)	上顎單側犬齒及小臼齒錯位合併雙側側門齒先天缺失之矯正治療 - 病例報告
T07	Hsin-Lan Shen (沈心嵐)	線圈式機制臼齒前引
T08	Ya-Ying Teng (鄧雅音)	以迷你骨釘改正上顎單側傾斜的咬合平面與下顎臼齒的前移 - 病例報告
T09	I-Ming Tsai (蔡一民)	安格列氏三級咬合在術前矯正後軟硬組織的變化
T10	Liting Chen (陳儷婷)	配合上頷前牙區植牙治療因外傷骨折造成之第三類咬合不正 - 病例報告
T11	Yi-Jyun Chen (陳易駿)	下顎兩側第二大臼齒水平阻生扶正
T12	Hsiao-Hui Chen (陳曉慧)	面罩合併哈利裝置治療混合齒列第三類咬合不正 - 病例報告
T13	Po-Yu Yang (楊博喻)	第一小臼齒已拔除後之重新治療病例 - 病例報告
T14	Tzu-Hsin Lee (李慈心)	矯正配合牙周治療安格氏第二級不正咬合 - 病例報告
T15	Chih-Ying Hsu (徐執盈)	鎖骨顱骨發育異常病患之矯正考量與治療
T16	Fang-Yu Shen (沈芳羽)	探討齒顎矯正治療與齒髓神經的關係
T17	Chin-Kai Huang (黃智楷)	利用後牙區咬合板及迷你骨釘，將過度萌出的上顎臼齒下壓
T18	Yi-Ming Kung (龔逸明)	活動式球型顎擴張器在成人上顎牙弓橫向發育不足病患之應用
T19	Hsien-Lin Chuang (莊仙菱)	病例報告-下顎骨牽引生長

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Room 103

No.	Name	Topic
T20	Te-Ju Wu (吳德儒)	矯正治療搭配勒福一型截骨術診治雙側下顎骨髁頭缺失患者—完成治療後半年病例報告
T21	Yu-Jen Chang (張毓仁)	利用3-D模型應用在臉型不對稱患者之正顎手術病例報告
T22	Chih-Fan Lin (林芝帆)	下顎骨造釉細胞瘤造成多顆恆牙阻生之手術合併矯正治療病例報告
T23	Ching-Ming Su (蘇靜明)	比較不同治療機轉與結果於嚴重骨性第二類型咬合不正患者
T24	Ting-Shuan Sung (宋亭萱)	使用矯正螺絲與水平臂治療上顎埋伏犬齒 - 病例報告
T25	Chia-Ni Lin (林佳妮)	傳統錨定與迷你骨釘錨定對於雙顎前突患者之治療效果比較
T26	Jeih-Fu Chen (陳玠甫)	利用不對稱拔牙及迷你骨釘來改善雙顎前突 - 病例報告
T27	Shang-Chun Jseng (曾上純)	骨性二級異常咬合具深角前切迹之顱顏測量學的研究
T28	Yu-Chuan Tseng (曾于娟)	成人顏面不對稱治療計畫之判定：單純矯正治療或合併正顎手術
T29	Szu-Jung Huang (黃思榕)	利用迷你骨釘改善二級第1分類異常咬合合併齒槽齒列下墜 - 病例報告
T30	Nien-Shan Yang (楊念珊)	利用迷你骨釘改善嚴重牙齦外露及雙顎前突之矯正治療 - 病例報告
T31	Chia-Yi Pan (潘佳儀)	利用臨時錨定裝置治療雙側齒槽前突 - 病例報告
T32	Ya-Hui Yang (楊雅慧)	運用迷你骨釘治療低下顎平面角之二級齒性前凸之病例報告
T33	Fang-Fang Tsai (蔡芳芳)	病例報告：迷你骨釘應用於雙顎前突及顏面不對稱病例
T34	Hui-Lan Chang (張慧蘭)	Study of 12 Cases in Early Treatment of Nonextraction
T35	Chun-te Liao (廖峻德)	矯正臨時植體治療前齒後退的限制與禁忌症
T36	Yin-Ting Liu (劉胤廷)	用自鎖性矯正器合併高拉式頭套治療二級異常咬合 - 病例報告
T37	Chiung-Wen Chang (張瓊文)	咀嚼肌功能對於顱顏顎骨骨縫生長發育之影響

WIOC Poster Presentations

Room 103

No.	Country	Name	Topic
1	Brizal	Denise Fujii	Comparative Analyzes of Insertion and Removal Torque of Brazilian Mini-Screws
2	Japan	So Ozawa	A Molar Distalization Method Using Micro-Implant Anchorage Available for Lingual Orthodontic System
3	Japan	Misato Yoshida	Characteristics of Anodically Oxidized Titanium
4	Japan	Katsuyoshi Futaki	Accuracy in Measurement of Tooth Using CBCT
5	Japan	Miyuki Furusato	Maxillary Protrusion Cases Treated with SAS
6	Korea	Park Ja Ryeong	Uv-Light-Induced Photocatalytic Bactericidal Effect on Modified Titanium Implant Surfaces in the Presence of Saliva
7	Korea	Jeong-Sub Lee	Total Arch Retraction by Miniimplant and Miniplate
8	Malaysia	Helmi Alyamani	Shear Bond Strength of Orthodontic Brackets Bonded Using Light-Emitting Diode and Tungsten-Quartz Halogen Curing Light with Different Curing Times
9	Thailand	Boonsiva Suzuki	iPanda: Indirect Palatal Miniscrew as an Anchorage and Distalization Appliance
10	Turkey	Cinar Atagün	Power Arm & Jig Designs for Sectional and Full Arch Molar Distalisation Cases
11	Japan	Hitoshi Hotokezaka	An Adolescent Case with Dental Protrusion and Skeletal Open Bite Treated with Skeletal Anchorage Device
12	Taiwan	Chia-Chen Li (李佳臻)	Class II, Division 1 with Deep Bite and Severe Jaw Bone Discrepancy Case Corrected by Mini-Screws Anchorage - A Case Report
13	Taiwan	Fang-Chin Chen (陳芳津)	Profile Improvement of Severe Bimaxillary Protrusion with Extreme High Mandibular Angle by Using TADs
14	Taiwan	Ting-Fang Cheng (鄭婷方)	Comparison of Treatment Outcomes of Patients with Maxillary Protrusion with Different Anchorage Devices or Surgery
15	Taiwan	Shen-Chieh Lin (林聖傑)	Non-Surgical Treatment of ClassII div.2 Malocclusion with Severe Crowding by TAD and Damon System
16	Taiwan	Kai-Liang Chiang (江凱量)	Orthodontic Treatment on Acute Myeloid Leukemia Patient - A Case Report
17	Taiwan	Ying-Shan Sun (孫櫻珊)	Disinhibition Effect on Oral Hygiene Behavior among Dental Patients

Room 103

No.	Country	Name	Topic
18	Taiwan	Pei-Hua Lu (呂佩樺)	Is Conformity Associated with the Influence of Toothache among Dental Patients?
19	Taiwan	Chun-Yi Kao (高俊義)	New Thinking of Orthognathic Surgery in Skeletal Class III Cases
20	Taiwan	Chih-Yu Lin (林芝瑜)	Treatment of Asymmetric Premolar Extractions with Mini-implant - Case Report
21	Taiwan	Li-Hsiang Lin (林利香)	Treatment of Skeletal Class III Malocclusion with Miniscrew Anchorage
22	Taiwan	Li-Hsiang Lin (林利香)	Correction of Skeletal Class II Bimaxillary Protrusion with TADs
23	Taiwan	Ya-Ling Chen (陳雅齡)	Miniscrew in the Treatment of Lower Three Incisors with Large Overjet Case Report
24	Taiwan	Hui-Ju Wang (王慧茹)	Skeletal Class III with Unilateral Congenital Missing Teeth and Correction of Midline Using TADs
25	Taiwan	YY Wu (吳蘊蘊)	Orthodontic Treatment of Skeletal Class III Case with Mini-Implant Assisted
26	Taiwan	Yi-Hsuan Chen (陳怡璇)	Correction of Gummy Smile by Using Miniscrew Anchorage in a Good Facial Profile, Class I Occlusion Patient: A Case Report
27	Taiwan	Wei-Min Yang (楊瑋民)	Marsupialization of Impacted Lower Molar: A Case Report
28	Taiwan	Tsu-Chien Yeh (葉子健)	A Case Report: RME for Mid Facial Deficiency Combine with Anterior Cross Bite Correction
29	Taiwan	Chi-Chia Huang (黃智嘉)	Compare the Upper Jaw Cortical Plate from the CBCT Image
30	Taiwan	Yin-Lan Hu (胡尹藍)	Evaluation of Cortical Bone Thickness at Mandibular Posterior Area with CBCT for Orthodontic Implant
31	Taiwan	Chia-Tze Kao (高嘉澤)	Multidisciplinary Tooth Movement by Temporary Anchorage Device in Adult Patient
32	Taiwan	Yi-Chien Chen (陳怡蓓)	Treatment of Skeletal Class III with Open Bite by Whole Lower Dentition Distalization with Miniscrews – Case Report
33	Taiwan	Heng-Ming Chang (張恆銘)	Treatment of Bimaxillary Protrusion with Anterior Open Bite Case with the Aids of TADs - A Case Report
34	Taiwan	Jia-Kuang Liu (劉佳觀)	Orthodontic Traction of Impacted First Molar with TADs

Room 103

No.	Country	Name	Topic
35	Taiwan	Chuan-Yang Chang (張川陽)	Comparison of Bond Strengths of Self-Ligating Brackets and Conventional Brackets Bonded to Temporary Crown
36	Taiwan	Wen-Chen Chang (張文蓁)	Orthodontic Treatment of Two Cases with Occlusal Plane Canting Using Temporary Anchorage Devices
37	Taiwan	Po-Sung Fu (傅柏松)	Uprighting Impacted Mandibular Second Molars with an Innovative Tip-Back Cantilever
38	Taiwan	Yai-Tin Lin (林雅婷)	Orthodontic Treatment of an Impacted Second Premolar Associated with an Inflammatory Dentigerous Cyst
39	Taiwan	Yu-Ling Cheng (鄭郁玲)	Using Mini-Screw Implants in a Patient with Crossbite and Concurrent Temporomandibular Joint Disorder
40	Taiwan	Chin-Yu Chiang (蔣金玉)	Non-Surgical Treatment of Severe Gummy Smile with TADs
41	Taiwan	Wei-Chun Wang (王威鈞)	The Application of TADs in Class II, Division 2 Malocclusions
42	Japan	Yoshiaki Sato	Treatment of Skeletal Class II Open Bite Case
43	Taiwan	Jay Chun-Chieh Wang (王俊傑)	TADs to Gain Implant Space and Correct Midline off
44	Korea	Jung-Yul Cha	Strain of Bone-Implant Interface and Insertion Torque Regarding Dual Thread Miniscrew
45	Taiwan	Hsin-Chung Cheng (鄭信忠)	The Study of Osseointegration on Stainless Steel Mini-Screw Implant by Metal Powder Injection Molding



Invited Papers

TAO-01

Vertical Control in Orthodontics

垂直控制於齒顎矯正之運用

Tsung-Ming Chuang, (莊宗明)



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高雄醫學大學兼任教授、國防醫學院兼任副教授、前齒顎矯正研討會會長

Vertical control mechanics can increase mandible alveolar growth, decrease maxilla alveolar growth and simultaneous hold palate descend, this is helpful to treat large ANB high mandibular angle open bite cases. It is more a conceptual guardian than technical options. By understanding the importance of controlling the vertical growth of the face, we can help our orthodontic patients achieve a healthy pleasing and long lasting treatment goals within a reasonable and predictable time.

垂直控制Vertical control是齒顎矯正時取得錨定anchorage的優良方式之一。在Class II不良咬合症例，正確的顎間垂直控制能適時抑阻腭骨與上顎齒槽骨朝前朝下之生長；促使

下顎骨與頰側齒群朝上朝前補足垂直成長總量；促進臼齒一級咬合Class I molar；減少咬合平面occlusal plane與下顎平面mandibular plane所形成之OM角度；縮小開咬open-bite；促近上下顎間水平差距；襯托出後縮的頰圓prominent chin，良好的垂直控制允為療程迅速，療效成功的重要關鍵。

早於六〇年代Terrell Root；Harry Dougherty等學者，即率先倡導以高拉式頭套highpull headgear；腭槓palate bar；延緩拔牙delay extraction顎間垂直控制方式減緩上顎成長，同時下顎輔以各類錨定製備anchorage preparation如tip-back bends；lip bumper；lingual holding arch以促進下顎整體增長，改善Class II臼齒咬合至Class I。自此垂直控制的觀念與技術廣獲重視，其間各種垂直控制方式與裝置相繼推陳置新，如mini-screw；micro-implant等TADs並沿用至今。

垂直控制於未成年Class II不良咬合療效理想，然成年adult Class II定型的頰側咀嚼肌群；陡峭的下顎；排平deep Spee弧所需壓齊的下顎前後齒列；不良吞嚥習慣等則是矯治時艱鉅的挑戰。國人常見ANB 8度或更大；下顎後縮；上腭深窄high palate vault；牙齦凸顯gummy smile；下顎齒列擁擠或前突；Class II臼齒咬合；吐舌tongue thrust；FMA 41度或更大的症例，Dr. Root建議運用顎間垂直控制與拔除四顆第一小臼齒後，再拔除上顎第一大臼齒以達成目標，第二大臼齒則與下顎臼齒形成super Class I 咬合。此矯治方式的前提為：

1. 患者之上顎腭骨厚度palate lingual cortical boundary足以包容前齒列後移。
2. 患者不適合或不願接受齒顎矯正

合併combine Class II surgery正顎手術。

3. 上顎第三大臼齒maxillary third molar必需能健全萌出，權充第二大臼齒。
4. 上顎第二；第三與下顎第一；第二大臼齒能適當對咬proper occlusion。
5. 患者瞭解矯治目標goals，療效符合期望expectation，願配合cooperation。

TAO-02

Various Anchorages with Orthodontic Mini-Implants

各種不同的矯正迷你植體錨定

Hong-Po Chang (張宏博)



高雄醫學大學牙醫學系（所）教授、高雄醫學大學附設醫院齒顎矯正科主任、中華民國齒顎矯正學會顧問

病患的合作、錨定的維持以及缺乏錨定的來源常是困擾齒顎矯正醫師的難題，就齒顎矯正治療而言，錨定的要求沒有改變，改變的是錨定的方法；從後傾彎曲主線、預成後傾角度托槽到迷你螺絲植體，吾人走了一段漫長的路途。近年來，暫時錨定裝置（TADs）的引進，治療各種困難的異常咬合病例，對於病患的合作、錨定的維持以及治療的方便，有了全



方位的思維改變。使用暫時植體當作齒顎矯正的錨定已普遍成為治療各種異常咬合的選擇。暫時錨定裝置使得吾人獲得最大的錨定，同時滿足病患較舒適與更美觀的要求；提供骨性錨定，給于齒顎矯正醫師與病患解決難題，使得牙齒移動比以往更為容易與更短的治療時間。本篇報告提出簡單明瞭的齒顎矯正力學的圖示，舉例說明如何使用不同暫時錨定裝置，治療不同病例的臨床應用。

TAO-03

Anchorage-The Sword in the Stone!

石中劍

Ming-Guey Tseng (曾明貴)



台大牙醫學士、
美國密蘇里州聖
路易大學齒顎矯
正碩士、美國齒
顎矯正專科醫師

在古老的傳說裏，唯有睿智的勇者才能拔起“石中劍”以此斬妖除魔。同理於矯正的治療過程中，正確清晰的Anchorage觀念，就像石中劍般地鋒利，往往能讓矯正醫師破除種種障礙，化險為夷，從而締造出完美的結局。否則，必然是曠日廢時，徒勞無功！

在本次的報告中，我們將日常見到的一些anchorage問題提出來同討論。舉例如下（1）當我們努力嚐試使用傳統的方式來打平嚴重的curve of spee時，效果始終出不來，甚至作為anchorage的臼齒都已經向上挺出而晃動時，我們是否能迅速地另闢途徑、破繭而出！（2）下顎牙

齒拔了第一小白齒來解決擁擠或暴牙，到後來剩下許多空間待關閉；但是只見下顎門牙不斷向舌側斜，臼齒卻聞風不動，大家都有過這類似的窘境吧！石中劍何處覓呢？（3）上顎臼齒花了許多時間banding，鉗上transpalatal bar或Nance；但是使用class 1 mechanics時，臼齒依然前移了，那麼是否該思考banding molar是否仍應是routine的工作呢？（4）上顎犬齒向後移動時，牙根若是變得prominent，顯然是偏到buccal cortical bone了，此時，犬齒反成為強大的anchorage！再堅持拉下去，犬齒是不會動的！此時此刻，石中劍—torquing spring便該上場了。先將牙根壓回齒槽骨中央，以獲得更多的blood supply，才能期待犬齒順利的繼續移動（5）下顎臼齒因前方牙齒缺失太久而向前斜了。當我們使用單一主綫levelling時，卻發現臼齒未能uprighting，反倒是整個咬合面被臼齒拉扯得斜向一邊，如此尷尬的情況是否一再出現呢？（6）使用loop mechanics來關閉空間時，什麼樣的anchorage方式才能真正阻止臼齒向前滑動，facebow絕對不是好的答案！

以上諸多狀況，有些是漫不經心造成的；有些卻是始終未能找出解決問題核心的石中劍。期待與大家同切磋，讓我們的觀念與技術與時俱進！

TAO-04

Anchorage Strategies without TADs

Glenn T. Sameshima



Dr. Glenn T. Sameshima is Associate Professor, and Chair and Program Director of the

Advanced Orthodontic Program at the Herman Ostrow School of Dentistry of the University of Southern California. Dr. Sameshima completed his orthodontic training and PhD in Craniofacial Biology from USC, after attending UCSF for his DDS. Dr. Sameshima maintains a part-time private practice in Torrance, California. He has held numerous positions in organized orthodontics nationally and internationally, and is a frequent presenter at conferences and meetings throughout the world. His present clinical research interests include self-ligation, root resorption, treatment outcomes, and ethnic differences.

Temporary anchorage devices have revolutionized the orthodontic practice of today, yet TADs are but the latest in a long line of strategies developed within the profession to allow us to use Newton's first law effectively in moving teeth. Anchorage, defined years ago by Harry Dougherty is distance to move and resistance to movement. A

corollary to that axiom is anchorage preparation – when one tooth moves, all teeth move as a unit. This lecture will describe non-TAD anchorage methods – both new and old that will enable the orthodontist to move teeth in the proper direction with the most optimal degree of force. Anchorage can be divided into extraoral and intraoral. Extraoral anchorage is familiar to us all as high-pull, cervical, vertical headgear, facemasks, and J-hook and Hickham headgears. Intraoral anchorage includes the traditional transpalatal and lingual arches, Nance arches, and many other forms of both passive and active fixed appliances. The palate is commonly used as an anchorage unit in distalizing molars; there are many appliances that incorporate this anchorage effectively. Using the dentition to pit one group of teeth against another is a time honored and tested method; within this classification you will find figure eights, lacebacks, etc, etc. More subtle variants of this type of anchorage include rotating molars against the cortical plate, applying elastomeric force modules against different teeth on a short time interval, and varying the thickness of the archwire within a single archwire. Clever but predictable results can be obtained in moving teeth differentially; some examples include Cetlin mechanics, and Mulligan mechanics. Using the lip as anchorage works well in tipping mandibular molars posteriorly using a lip bumper. Interarch anchorage strategies were developed by Charles Tweed and his followers, including Terry Root and Harry

Dougherty. Although these methods require absolute patient cooperation, they are still among the most effective ways to retract anterior teeth in the properly selected case. Preparing anchorage in the mandibular arch by tipping back the buccal segments against a fixed maxillary arch (High pull Kloehe headgear, palatal bar, and delayed first bicuspid extraction) using Class III elastics, then using this anchorage to retract the maxillary anterior segment using closing loops and Class II elastics was central to this type of treatment philosophy. The principles of anchorage as taught by Charles Tweed are still well thought of today as evidenced by the popularity of the Tweed courses taught in Tucson, Arizona, twice per year.

KAO-01

Diverse Approaches: Advancement of Midface for Crouzon Syndrome Patients

Hyo-Won Ahn, Seung-Hak Baek



Korea

Department of Orthodontics, School of Dentistry, Seoul National University, Seoul, South

Crouzon syndrome is an autosomal dominant condition comprising premature ossification of cranial sutures. Usually bilateral coronal synostosis is present, but other sutures can be involved and degree of synostosis can be progressive. The characteristic dysmorphism of Crouzon syndrome is midface hypoplasia with exorbitism, brachycephaly and frontal bossing. Midface hypoplasia occurs in both horizontal and vertical direction and leads to anteroposterior, vertical and transverse deficiency of the maxilla. Treatment planning for Crouzon syndrome must be addressed as part of the staged reconstructive approach according to age. When seen early in infancy, the most cases are treated first with floating forehead advancement for decompression of the intracranial pressure. In adolescence, repeated craniotomy for additional cranial vault expansion and reshaping or correction of "total midface", deformity can be performed. Orthognathic surgery for correction of the remained skeletal discrepancy and establishment of functional occlusion can be done after growth completion.

In this presentation, two cases for midface advancement in Crouzon syndrome are shown. The first case is severe phenotype treated with Lefort III advancement and orthodontic treatment only in childhood. The second case is mild phenotype treated with Lefort III/I osteotomy, 2-piece widening of the maxilla and BSSRO after completion of growth.

Since Crouzon syndrome has diverse phenotype according to



the extent of suture involvement, individualized approach based on the severity of phenotype is most paramount to get good treatment results.

KAO-02

Vertical Control Via Total Arch Movement in Hyperdivergent Growing Patients

Taehyun Choi



Dept. of Orthodontics in Yonsei University Dental Hospital, Seoul

Treatment of growing skeletal class II patients is commonly divided into 2 phases which include growth modification with bionator or headgear followed by fixed appliance. These growth-modification appliances are mainly focused on antero-posterior relation rather than vertical dimensional problem, which we rely on a few appliances such as high-pull headgear. Furthermore, as vertical growth last longer than transverse and antero-posterior growth, it should be considered during the second phase treatment of hyperdivergent skeletal class II patients.

As orthodontic miniscrews widened the range of tooth movement, this presentation will introduce improvement of

profile in hyperdivergent young adolescents by total arch movement using orthodontic miniscrews. Considerations and insertion of miniscrews for total arch movement will also be discussed.

KAO-03

A Case Report of Unilateral Lingual Posterior Crossbite and Class II Malocclusion Correction with Mini Implants

Tae-Hun Kwon, Kyung-Hwa Kang, Sang-Cheol Kim



Dept. of Orthodontics, School of Dentistry, Wonkwang university, South Korea

Crossbite is an occlusal irregularity where a lower tooth has a more buccal or lingual position than the antagonist upper tooth. Crossbite can involve a single tooth or a group of teeth. There are unilateral and bilateral crossbite.

Characteristics of unilateral lingual posterior crossbite are lingual tipping of lower molars and buccal tipping of upper molars, extrusion of upper molars due to absence of occlusal contact and development of mandibular shift.

Depending on cause and degree, they are corrected by many methods such as distraction-

osteogenesis, transpalatal arch, precision lingual arch, criss-cross elastics, orthognathic surgery. Recently, absolute anchorage system can be made by mini implant, so that the range of orthodontic treatment is expanding. Therefore, we try to show the treatment case of unilateral posterior crossbite and Class II malocclusion with mini implants.

TAO-05

Tooth Movement Versus Anchorage

Iida Junichiro



Current Employment: Department of Orthodontics, Division of Oral Functional Science,

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Professor and Chair of the Department of Orthodontics,
Educational Background:

1972 April – 1978 March

School of Dentistry, Tokyo Medical and Dental University

1978 April – 1982 March

Graduate school of dentistry, (Ph.D. course of Orthodontics)

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Previous employment:

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Assistant Professor

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1992 Nov. – 1995 Jan.

Lecturer

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1995 Feb. – 1999 Oct.

Associate Professor

Department of Orthodontics, School of Dentistry,
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1999 Nov. – 2000 March

Professor, Department of Orthodontics,

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2000 April – present

Professor, Department of Orthodontics,

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Clinical orthodontists are well aware of the importance of making rigid anchorage in the mouth for successful orthodontic treatment. The development of temporary anchorage devices (TADs) has enabled rigid anchorage to be achieved, and TADs have become widely used by orthodontists in orthodontic treatment. TADs provide rigid anchorage, which could not be achieved by using traditional anchorage systems such as intra-maxillary, inter-maxillary or extra-oral anchorage systems. The use of TADs has enabled more successful orthodontic treatment with teeth being moved more precisely to an intended site.

In the case of traditional intra-maxillary anchorage systems, movement of the tooth used as anchorage, in other words "anchorage loss", which can lead to unsuccessful treatment results,

is sometimes intentionally used in ordinary orthodontic treatment. We often use conceptual reciprocal anchorage, which is the idea that both the objective tooth to be moved and the tooth used as anchorage must be moved when we apply orthodontic force in orthodontic treatment.

Storey and Smith proposed a differential force technique based on the idea that the velocity of tooth movement induced by orthodontic force must differ depending on the type of tooth due to difference in the area of the periodontal ligament of each type of tooth. Since orthodontic treatment depends on the reaction of periodontal tissue to mechanical stimulation of orthodontic force, knowledge of the reactivity of the periodontal ligament to the mechanical stimulation is important for considering how orthodontic force should be applied when performing orthodontic treatment.

We have been studying the tissue reaction to mechanical stimulation with focus on morphological and functional reactions of the microvasculature in the periodontal ligament or subcutaneous tissue to compressive stimulation using animals. In those experiments, we observed sensitive reactions of the microvasculature to the mechanical compression that are related to appropriate bone resorption around the periodontal ligament.

In this lecture, I will present results of our research on reactions of the periodontal ligament to mechanical orthodontic force and discuss what kind of and what magnitude of orthodontic force will rapidly and safely move teeth. With the

current widespread use of rigid anchorage systems, more precise and appropriate techniques for tooth movement are required.

TAO-06

Reconsideration about Anchorage Value and Movement Velocity

Koutaro Maki



1989-1995

Teaching

Assistant, Dept. of Orthodontics,
Showa

University

1996-2003

Lecturer, Dept. of Orthodontics,
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1998-1999

Visiting Professor, Dept. of Growth and Development, UCSF

2003- present

Chair and Professor, Dept. of Orthodontics, Showa University

Both loading magnitude and biological response affect the Orthodontic tooth movement. Information such as thickness of cortical bone, density value and/or biomechanical response in individual patient could play helpful role in Orthodontic diagnosis. In this presentation, new method enable to measure bone density with CBCT and individual mechanical analysis based on volumetric data will be demonstrated as basic evaluation for 3D treatment planning. And



clinical results of Invisalign and super light force treatment with non-ligature bracket will also be introduced as a question raising against to the conventional treatment.

1. Evaluation from CBCT measurement
From the database of CBCT image, cortical bone thickness and density distribution were evaluated. Thicker area and higher density distribution were almost coincident, however, morphological characteristics had no relation with them.

2. Possibility of 3D treatment planning

With the measurement of EMG activity, biting force and structural information from CBCT, individual mechanical conditions were calculated by automated FEM (Finite Element Method). Distribution of mechanical energy, reaction force at Condyle generated by mastication, and center of occlusal curve (Spee curve) were evaluated. In FE model, without any alteration of muscle loading, biomechanical effect of position and angulations of teeth were determined. Changes in distribution of mastication energy, direction of reaction vector at Condyle and curvature of Spee, as the simulation of orthodontic treatment were also calculated.

3. Clinical impression from Invisalign treatment and Super light force Orthodontics

As the Orthodontic appliance which could bring certain amount of displacement, results of Invisalign treatment in extraction cases were evaluated.

Differences among with- and without- bowing effect were compared in three dimensionally. With newly developed non-ligature bracket system and 40-60g of loading magnitude by 0.012-14 NiTi wire, effectiveness of tooth movement was examined in extraction and non-extraction cases. In some cases, treatment period was reduced radically.

Through these 1)-3) findings, necessity of reconsideration for anchorage and treatment method will be discussed.

TAO-07

Mechanodynamics and Biological Responses in Distraction Osteogenesis of the Maxilla

Keiji Moriyama



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Global Center of Excellence (GCOE) Program, International Research Center for Molecular Science in Tooth and Bone Diseases, Tokyo, Japan
1980-1986
Tokyo Medical and Dental University
1986
D.D.S. (Doctor of Dental Surgery)
1986-1990
Tokyo Medical and Dental University

Graduate School, 2nd. Dept. of Orthodontics

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Ph.D. (Doctor of Philosophy, Tokyo Medical and Dental University)

1992-1994

Post Doctoral Fellow, University of Texas Health Science Center at San Antonio

1997

Assistant Professor, 2nd Department of Orthodontics, Tokyo Medical and Dental University
1998-2007

Professor and Chairman, Department of Orthodontics, The University of Tokushima
2007-present

Professor and Chairman, Department of Maxillofacial Orthognathics, Tokyo Medical and Dental University Graduate School

Distraction osteogenesis (DOG) is a surgical remedy to generate new bone in a gap between two bone segments in response to the application of graduated tensile stress across the bone gap. DOG is originally used to lengthen the long bones, fill the bone defects, and reconstruct skeletal deformities. In 1980s, the technique was introduced to the craniofacial skeleton. The maxillary DOG by using cranially fixed external devices has become an accepted alternative in the treatment of patients of cleft and related craniofacial anomalies, especially with severe maxillary hypoplasia. Substantial hard and soft tissue changes can be attained with this technique, which facilitate the comprehensive orthodontic treatment in cleft patients with severe maxillary retardation. In

the rigid external distraction (RED) system, a cranially fixed halo as a point of anchorage to advance the maxilla was connected through the maxillary dentition by an intraoral splint and traction wires. With this system, a predictable and stable maxillary advancement can be attained.

It is speculated that the slight flexibility present in the traction hooks of the RED system allows for energy storage, resulting in that continuous force to the maxilla between activations would be produced. DOG is accompanied by simultaneous expansion of functional soft tissue matrix, including blood vessels, nerves, skin, fascia, ligaments, cartilage, periosteum, and mucosa. Consequently, the soft tissue tension generates the force against maxillary advancement by distraction. This resistant force is estimated to be mechanically equivalent to the traction force derived from the RED system. Occasionally, some patients especially with potential severe postoperative scar tissue demonstrate resistance to the maxillary advancement toward the end of the distraction period. With these backgrounds, the force applied to the maxilla and distraction device itself should be biologically and mechanically important, and the measurement of the force applied during activation would be of interest. On the other hand, at removal of distraction device after consolidation period, information of the residual force present should be quite instructive in deciding the methods of retention after DOG. Hence, a longitudinal

measurement of the force applied was attempted by using micro-strain gauges fixed within the traction wires of RED system. The maxillary traction force was measured daily for all the patients in whom DOG using RED system was performed, aiming to assess the process of DOG. In this presentation, biological property of the soft tissue in response to the tension stress in DOG will be discussed along with mechanodynamic aspects of DOG.

TAO-08

Precision Direct Bonding with KommonBase

Akira Komori



1988
DDS from
Nagasaki
University
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1992

PhD from Postgraduate Research
Institute of Nagasaki University
1993

Assistant Professor on Nippon
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Associate Professor in Nippon
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2008

Membership in Orthodontics from
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Visiting Professor in University
of Ferrara, School of Dentistry,
Postgraduate School of
Orthodontics

Improvements in the customized
base design and in the bonding
system have allowed development
of a precise direct bonding
system, named KommonBase.
KommonBase is characterized
by a large bonding base, which
can acquire the best fitting and a
precise bracket positioning while
also enhancing bond strength.
There is no need to use transfer
trays because of its self-positioning
shape.

Morphological complexity of lingual
surface is a great advantage for
applying KommonBase. There
are many landmarks on lingual
surface of the teeth; cingulum,
marginal ridge, linguoincisor edge,
lingual groove, etc. KommonBase
can achieve seating of bracket
position according to the landmarks.
Brackets can be positioned easily



and accurately by pressing the brackets with explorer. If the bracket is laid on incorrect position, KommonBase can direct it to a correct position.

KommonBase consists of three types of resin; high flow filled flowable resin, low flow filled flowable resin, and high flow unfilled flowable resin. High flow filled flowable resin assures strong bonding property at the interface between bracket base and resin which can penetrate into undercut of bracket base. Low flow filled flowable resin provides a good handling to prevent drift of reference wire and brackets on laboratory procedure. Most part of KommonBase spread over the lingual surface of the teeth consists of high flow unfilled flowable resin. This extended resin was very thin like a film. Even in the case of occlusal interference, interfered resin can be grinded automatically according to the function of occlusion, because high flow unfilled flowable resin is softer than filled resin.

KommonBase should be bonded firmly throughout orthodontic treatment, and it also should be removed easily without enamel fracture at the end of treatment. Since brackets are bonded closely to gingival tissue, it is difficult to maintain dry field. Although resin adhesive produce strong bond strength, the bond strength of resin adhesive is diminished due to contamination of saliva, which leads to result in bracket failure. Adhesives which do not affected by the presence of water and saliva would clearly be preferred. Resin-

reinforced glass ionomer cement is hybrid material of resin and glass ionomer cement. The bond strength of Resin-reinforced glass ionomer cement is not affected by contamination of saliva and water.

KommonBase can be applied not only to lingual orthodontic brackets but also to other appliances; labial fixed appliance, transpalatal arch, pendulum appliance, lingual arch, etc. Some clinical trials treated with modified appliances will be presented.

TAO-09

TADs, beyond TADs

Ming-Hsien Lan (藍明賢)



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1994臺灣大學附設醫院牙科部齒顎矯正科專科訓練。1994-1999：台北長庚紀念醫院矯正牙科主任。1999-Now：藍明賢隱藏式矯正專科診所負責醫師
會員：中華民國齒顎矯正學會（TAO）專科醫師、世界舌側矯正學會（WSLO）會員

近年來TADs的快速發展，揭開了矯正史上的革命性的一頁。如今不只是矯正醫師，連許多患者也或多或少了解TADs的實際功效。然而在聽過了眾多強調TADs神奇妙用之後，在我們邁向所謂的文藝復興之前，是否更應該捫心自問，我做對選擇了嗎？

請試想以下幾個問題：

1. 我是否能不用TADs就不用？
2. 我是否能一開始就將TADs列入治療計畫？

3. 我是否用最少的TADs來達成目的？
4. 我是否使用TADs而沒有副作用？

本次演講將針對上述問題，藉由臨床的實際病例，試著提供解答的方向。

TAO-10

Anchorage Preparation for Molar Protraction 臼齒前拉的錨定準備

Tzu-Ying Wu (吳姿瑩)



國立陽明大學牙醫學系畢業、中華民國齒顎矯正學會 專科醫師
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在齶齒率偏高的台灣地區，前來尋求矯正治療或經他科轉診的成年病患中，常見第一大臼齒嚴重破壞無法修補之病例，而這類病患在經過矯正醫師評估後，時常會提出將第二大臼齒向前移動並將第三大臼齒扶正拉出之治療計畫，以減少病患口內之假牙，並保留病患本身的真牙。

以傳統的錨定方式處理這類病例不外乎藉由前牙的幫忙，及雙側臼齒的聯結（TPA, LHA），或對側牙弓提供的協助幫忙完成此項任務。但是臼齒的前移常會造成大量的錨定喪失（尤其在下顎骨區），甚若為單側不對稱之前移，可能會造成咬合面傾斜及牙齒中線偏移的狀況。

以骨性錨定裝置協助臼齒的前移，理想上似乎可以降低傳統錨定的需求而避免前述之副作用發生，然而臨床上，依據骨性錨定裝置的位置與矯正裝置的設計不同，仍然會有其各別的副作用發生，如何事先預知其發生時機並提早解決，將是使用骨性錨

定協助臼齒前移治療成功的關鍵。

TAO-11

Innovating Concept of Damon Anchorage

Chih-Hsien Wu (吳致賢)

高雄醫學大學牙醫學研究所齒顎矯正組碩士、中華民國齒顎矯正學會專科醫師、高雄醫學大學附設中和紀念醫院齒顎矯正科兼任主治醫師、嘉義百立牙醫診所齒顎矯正主治醫師



牛頓第三運動定律指出：當兩物體交互作用時，彼此互以力作用於對方，兩者大小相等，方向相反，亦即作用力 / 反作用力原理。應用在臨床矯正移動牙齒上，將不欲移動之牙齒上的反作用力減小消除，而使作用力集中在欲移動之牙齒上，便是錨定 (Anchorage) 的基本概念。在各式新型矯正系統百家爭鳴的今日，如何增強錨定仍是研發創新的重點。

Damon自鎖式矯正器以較大的孔徑，以及閘門關起後形成的四面管壁來減小矯正器與矯正線之間的摩擦力，進而達到以輕微力量 (light force) 移動牙齒的理想。在這樣異於傳統矯正裝置的設計下，是否有著和以往系統不同的錨定表現？又是透過何種機制來達成錨定需求量的改變？甚至許多初次接觸該系統的醫師可能都會有的問題：Damon自鎖式矯正器不需要拔牙？？！！Damon自鎖式矯正器不需要anchorage？？！！

本報告將針對Damon系統的六大完工原則：黏著位置、Torque選擇、ELSE和BT的搭配、矯正線順

序、骨性錨定裝置之配合，以及自鎖式矯正器輕微施力之特色，和各位醫師分享討論藉助這些方法增強矯正 anchorage 的心得。

TAO-12

Discover the Functional Factors which Affect Anchorage Preparation

探討影響錨定的功能性因素

Ellen Wen-Ching Ko (柯雯菁)

長庚醫院顏面齒顎矯正科主任、長庚大學顏面口腔醫學研究所助理教授、美國伊利諾大學芝加哥分校外科碩士與顏面中心研究員、台北醫學大學牙醫學系學士



以顏面生長發育的觀點探討顏面型態的特性 (pattern)，以往文獻指出特有的顏面型態特徵與功能互有關聯。而下顎運動相關的咬合肌群之力量與特性為影響顏面與下顎骨形態的重要功能性因素之一。下顎咬合肌群相關的功能性變項包括咬肌的肌電反應、咬肌之體積大小與走向及咬合力量之大小等等。這些變項被認為與下顎 (或下顎髁) 的生長旋轉方向、垂直面形比例、咬合垂直覆蓋量及臼齒咬合穩定性有關聯。此臼齒穩定性與齒顎矯正治療過程的錨定控制是否有關，則目前尚無臨床研究支持或證實。本報告將對此功能性因素作系統性的回顧整理，並研究初探矯正病患之肌電反應與矯正治療前後臼齒移動大小與方向之關係，以做為齒顎矯正

治療選擇錨定加強之方式與必要性之參考。

TAO-13

Mini-Implants Anchorage Considerations in Orthodontic Treatment of Adult Class III Malocclusions

成人三級異常咬合矯正 治療之植體錨定考量

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台灣大學牙醫學士、台灣大學臨床牙醫學研究所碩士、台大醫院牙科部齒顎矯正科主任、台灣大學牙醫學院牙醫學系副教授

三級異常咬合成人患者尋求矯正治療的常見問題包括顏面外貌不美觀及咬合功能不良，而顏面外觀的改善往往是患者最大的期待。如何為患者進行正確的診斷，配合其主觀訴求及客觀條件擬定適當的治療計畫，以幫助病人恢復協調容貌和理想咬合，一直是所有臨床矯正醫師的重要課



題。矯正迷你植體錨定的發展，幫助許多患者免除傳統錨定裝置的不便，也大大提升矯正治療的效率。對於部份傳統方法不易矯治的三級異常咬合病例，若適當應用迷你植體錨定可能得以突破傳統限制，避免施行正顎手術，僅透過保守治療仍能達兼顧成顏面美觀與齒列咬合的治療成果；當然，治療成果的長期穩定性更是臨床醫師應該努力追求的目標，其中極重要的關鍵影響因素包括：(1)病例回顧形態分析診斷、(2)以病例診斷為中心的生物力學設計。當迷你植體已成為常規性錨定裝備，如何運用才能恰如其分，則需要臨床醫師不斷的省思。矯正迷你植體種類極多，設計巧妙各有不同，無論應用何種迷你植體，我們都必須充份了解其中的生物力學優勢及可能潛存的副作用，才能調控促成牙齒移動的臨床操作，如願發揮迷你植體矯正的最大效益。本次報告將針對骨骼性三級異常咬合成年病例的治療，藉由病例回顧說明病例診斷及顱顏形態分析的重要性，從三度空間的牙齒移動，探討如何善用迷你植體錨定輔助手術與非手術性矯正治療的生物力學考量，以達成長期穩定之治療結果。

TAO-14

Anchorage Consideration for Orthodontic Implant Site Development

齒顎矯正重建補綴植牙區的錨定考量

Hsin-Kuang Chen (陳信光)



日本昭和大學齒學博士、台北市普羅齒列矯正專科診所

補綴植牙時常遇到鄰牙向缺牙區傾倒、對咬牙過度萌出、以及缺牙區組織缺損的問題，齒顎矯正可以對這些問題提供適切的解決，牙齒的移動不但能提供補綴物製作的空間，也能引導齒槽骨及附著牙齦的再生，這點更具組織工程的意義，但是針對缺牙區的矯正治療，因為牙齒的數目較少，並常伴有其他的缺牙或是牙周的問題，不管是局部或是全口矯正治療，錨定的設計都是困難的問題。

齒顎矯正對植牙區的重建在植體矯正的導入後，有了更廣泛的應用，由於錨定的問題得到了解決，不但加大了牙齒移動的範圍，過去難以完成的大臼齒壓下也變成可能，同時我們也不要忘記補綴植體本身就是最強的錨定，因此在考量齒顎矯正治療的錨定時，也不要忘記補綴植體本身的應用。

以齒顎矯正重建補綴植牙區時的錨定與力學設計，會因為缺牙區位置與大小、相鄰牙齒的牙周健康狀況、審美的需求等不同的狀況有不同的考量，本報告將以臨床病例說明在各種不同情況

時矯正錨定與力學的設計，並檢討其對牙周組織健康與審美的影響。

TAO-15

Application of TADs as Anchorage in Lingual Orthodontics

Kuang-Dah Yeh (葉光大)



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美國華盛頓大學齒顎矯正科臨床研究、國防醫學院兼任助理教授
現職：國軍花蓮總醫院牙科醫師

TADs 現已被廣泛應用於提供頰側矯正器牙齒移動時所須之 anchorage。然而，伴隨著操作上較為不易的舌側矯正，TADs 的應用情形又是如何？在舌側矯正的 case，TADs 一樣可以完全置於舌側嗎？置放的適當位置在哪裡？如果受到一些因素的限制而必須將 TADs 置放於頰側，和將 TADs 置放於舌側對力量的施予將會產生哪些影響？現今被使用於舌側矯正的 TADs 又有哪些種類？

一般而言，舌側矯正因相鄰矯正器間距較短，且矯正器黏著位置較接近牙齒 center of resistance，加上將前牙整體後縮關閉拔牙空間時，易造成大臼齒 buccal root torque and distal rotation，得到 cortical bone anchorage，所以 anchorage loss 的情形會較頰側矯正輕微。然而當需要 absolute anchorage 時，mini-implants、miniplates and onplants 皆為選項之一，尤其在舌側矯正中，上顎前牙後縮關閉拔牙空間時，前牙

之torque control相當不易，此時可應用寬且深的palate空間，以lever-arm合併TADs同時提供absolute anchorage和前牙之torque control。此外，置放mini-implants於palatal side的interdental space時，和置放於buccal side相較有所謂的safe zone，這些我們都將一一探討。

TAO-16

Consideration of Intraoral Anchorage (IOA) 口內固定源的考量

Jian-Hong Yu (余建宏)



顎矯正科

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Some easy and quick methods for intraoral anchorage preparation with LH wire (Improved Super-elastic Ti-Ni alloy wire, developed by Tokyo Medical and Dental University) will be introduced. [Case Presentation] (1) Maximum anchorage is one of the most crucial conditions in orthodontic treatment for severe crowding and protrusion cases. Conventionally, orthodontists use reinforced anchorage, such as transpalatal arch (TPA) plus headgear in the upper arch and lip bumper or lingual arch in the lower arch. However, with the newly developed closed coil spring, which exerting constant forces

due to its splendid characteristics, contributing to the concept of differential orthodontic forces, only serial ligature tying (SLT) at the posterior anchorage unit can be effective. Besides, alternatives such as crimpable stopper placement and posterior MEAW application can help a lot in consolidating the posterior anchorage unit. In addition, with flowable composite resin at the posterior segment teeth can be another effective option in clinical preparation for maximum anchorage, without the use of skeletal anchorages or EOA. With this method, invasive procedure and complicated chairside work can be avoided. (2) Furthermore, LH wire leveling can be self-anchorage for rotated tooth correction. (3) Crimpable hook can also be used as dynamic anchorage during impacted tooth traction. (4) Other examples of IOA, such as revolving implant. [Discussion and Summary] With LH IOA, anchorage preparation can be simplified. Patients feel comfortable, can easily maintain their oral hygiene, get rid of uncomfortable and inconvenient appliances during the treatment, and most of all, are satisfied with a non-invasive successful treatment result.

TAO-17

Facial Improvement and Anchorage Considerations

顏面外觀改善與錨定考量

Yen-Peng Chen (陳彥朋)



中國醫藥大學牙醫學士 (CMU, D.D.S.)、國立臺灣大學臨床牙醫研究所齒顎矯正學

組碩士 (NTU, M.S.D.)、臺大醫院齒顎矯正科專科醫師 (NTUH Certification)、中華民國齒顎矯正學會專科醫師 (TAO Certification)、中華民國齒顎矯正學會專科醫師最佳病例獎 (Best case award)、中華民國齒顎矯正學會國際發展及教育委員會委員 (Committee)

尋求顏面口唇部外觀的改善 (facial improvement) 常為矯正患者的主要訴求。因此，為了達致患者對於治療後的滿意度，是否拔牙治療與錨定需求的決定顯得十分重要！

近年來暫時錨定裝置 (temporary anchorage devices, TADs) 於臨床上的使用大增，原因取其便利性 (convenient) 與可確定性 (assurance)。尤其是特別針對難症及對顏面外觀要求較高的患者，骨性錨定不失為矯正醫師的一項利器！但因其仍存在著對於患者較為侵襲性 (invasive)、種植失敗率 (failure rate) 與傷及牙根 (root damage) 等可能，故對於病例上的選擇 (case



selection) 及臨床處理上宜更加謹慎、小心。

此演講內容將針對講者十年來的臨床心得與各位專家先進分享，藉由改良型超彈性線材 (ISW) 的臨床特性 (clinical properties)、暫時錨定裝置 (TADs) 的可靠性 (reliability) 與強化肌肉功能性治療 (myofunctional therapy, MFT) 三者的整合應用，簡化口內複雜裝置並於合理的時間內達成醫病雙贏 (win-win) 的治療成果。

TAO-18

Anchorage Preparation in Different Tooth Movement Technique (Tip-Edge Plus)

Hui-Lin Chen (陳惠林)



國防醫學院牙醫學士、美國紐約哥倫比亞大學齒顎矯正專科醫師、國防醫學院牙醫學系臨床教授、台南奇美醫院齒顎矯正科顧問醫師、中心牙醫診所齒顎矯正科專科醫生

在矯正治療中，錨定的控制一直是矯正醫師極大的挑戰。由早期的口外面弓到近期的迷你值體，都是為了增強錨定。在矯正過程中有許多因素，會增加錨定的需求。例如：矯正器在矯正線上滑動時所產生的摩擦力和阻力。牙齒移動的型態如：Bodily Tooth Movement就比Tipping Tooth Movement需要更多的力量。由於在治療過程中，不同的時期需用不同型態的牙齒移動。例

如：Canine Retraction時需做Bodily Tooth Movement。Intrusion時需做Tipping Tooth Movement。

本次演講將介紹在Different Tooth Movement Technique中如何將矯正過程按照牙齒移動的型態，分成不同的治療階段，來減少錨定的需求。同時利用Tip-Edge Plus Bracket的特性來任意轉換牙齒的移動方式和降低摩擦力和阻力。如何運用簡單的力學原理來增強口內錨定。

TAO-19

Anchorage Preparation with Differential Moment Mechanics

Shou-Hsin Kuang (況守信)



台北榮民總醫院口腔醫學部齒顎矯正科主任、國立陽明大學牙醫學系兼任講師

自2000年起暫時種植體 (temporary Anchorage Devices, TAD) 不論是迷你骨釘或是骨板，開始應用於矯正治療中做為移動牙齒的錨定，已經對於當代的矯正醫療帶來革命性的影響。不可否認的由於暫時種植體對於錨定的增強，大幅提昇了傳統矯正治療所能達成的範疇。對於這樣的景象我們應該高興，但也不免憂慮暫時種植體主導了所有矯正病例的治療，成為唯一矯正錨定的來源。然若當病患不論因任何因素導致無法使用暫時種植體做為錨定時，矯正醫師該如何建立適當的錨定來達成矯正的目標？回顧傳統的錨定觀念：加強型的

錨定 (reinforce anchorage) 是最基本的錨定準備方式，但能使用的有限；極大力量差異效應 (differential effect of very large force) 和皮質骨錨定 (cortical anchorage) 有對牙齒及牙周組織傷害的疑慮；相較於上述，固定型錨定 (stationary anchorage) ---使用差異性力矩 (differential moment) 的機制，將錨定區的牙齒以整體位移 (bodily movement) 的方式對抗移動區牙齒傾斜移動 (tipping movement) 所需的力量，達到保持錨定的效果，這種藉由力學系統所產生的錨定觀念，就給予臨床矯正醫師更多的期待空間。本次報告主要內容即為回顧過往矯正歷史上使用差異行力矩機制做為錨定控制的方法，以及講者現在臨床上引用相同機制的實際臨床操作，提供給大家作為參考。

TAO-20

Anchorage- It Is All about Force System!!

Hoi-Shing Luk



Director, Luk's Orthodontic Clinic
Clinical Assistant Professor - Chung Shan

Medical University
Diplomate, American Board of Orthodontists
Member of The Edward H. Angle Society of Orthodontics, North Atlantic Component

Anchorage control is an important issue in clinical orthodontics. Orthodontists demand absolute

control of teeth movement but most of us do not fully understand the real picture behind this. They hope the patient comply their instruction to wear the extra-oral device such as headgear. In the other hands, orthodontists place extra mini-screws for their anchorage purpose. However, anchorage preparation begins from your treatment planning. You can finish most of the cases without using those heavy weapons. Another shocking news is even you use mini-screws for anchorage, the posterior teeth are moving forward when you retract the anterior teeth with incorrect force system design. Frequently, anchorage lost will not only happen during closing space . Anchorage lost begins in the very early stage, alignment of teeth. The force system is not the same in every patient because all malocclusion is unique. Different prescription or different brand of the brackets and special wires will not solve your problem. It is the time for you to think about the interaction between the wire and the bracket (tooth)---- Well design force system is the only key for success.





Invited Papers

WIOC-01

The Past, Present and Future of Implant Orthodontics

Chih-Peng Su



Professional
Orthodontic
Center in Taipei,
Taiwan
Clinical
Professor of
Taipei Medical

University
Visiting Professor of Showa
University, Japan

Implant orthodontics is a grand specialty with a storied past and exciting present. The first research of temporary anchorage device in dogs was described as early as 1945 by Gainsforth and Higley. Until 1983, the first clinical case was reported by Greekmore and Ekulund in the literature of the use TADs to intrude and correct the upper incisors. After the mid 1990s, clinicians in the Far East are placing TADs on a routine basis and, nowadays, these innovative new concepts and techniques are increasingly spread to the whole world.

Implant Orthodontics could be used in a wide variety of clinical applications as follows: (1) anterior segment retraction & intrusion (2)

canine retraction & protraction (3) premolar extrusion, intrusion, retraction & protraction (4) molar uprighting, protraction, distalization, intrusion & extrusion (5) entire dentition distalization (6) correction of midline (7) correction of cross-bite (including scissors bite) (8) correction of ectopic tooth (9) as a skeletal anchorage in edentulous area (10) as a reinforced anchorage in in-cooperative patients (11) as a help for pre- or post-surgical orthodontics to save surgical site or to achieve better occlusion.

Despite huge advances in clinical applications at present, using TADs with some complications could occur (1) during and following insertion (2) during the loading period and (3) at removal period. Besides, due to mass commercial propagations, it seems to be overused and even wanted to replace conventional orthodontics and surgical orthodontics. Owing to the fast developments and innovations of other medical fields, it is possible that the use of new concepts, like well-established tooth-bank system and stem cells development etc., will replace TADs as skeletal anchorage and make implant orthodontics go down in history in the future.

The purpose of this presentation is to describe the brief history, show cases to demonstrate the contemporary pros and cons of using miniscrews, and predict the future of implant orthodontics.

WIOC-02

World Trend of Anchorage Development - TAD

Birte Melsen



1964:
Examination
for the dental
degree (first
class degree),
Royal Dental
College, Aarhus

1971: Jus Practicandi as dentist
1974: The Odontologic Doctorate,
Royal Dental College, Aarhus
1971: Acting Head, Department of
Orthodontics, Royal Dental College,
Aarhus
1972-1975: Associate Professor,
Department of Orthodontics, Royal
Dental College, Aarhus
1975-Professor and Head,
Department of Orthodontics, School
of Dentistry, Aarhus
1986-Part time practice in Lübeck,
Germany (Adult Orthodontics only)

Since my communication in 2005 entitled "Skeletal anchorage where are we?" the application of skeletal anchorage has developed dramatically. The numbers of TADs are increasing and the number of papers, mostly case reports, has grown exponentially. The failure rate reported does nevertheless reflect insufficient knowledge of factors

contributing to the failure rate. Factors like type of TAD, cortical bone thickness insertion and loading have been mentioned. A learning curve reported on this, but without a clear definition of the factors leading to reduced failures. Studies of large patient groups may identify some factors of importance, but the number of possible variables may reduce the value of such studies. A separate analysis of the roles played by TAD, doctor and patient is necessary, if the failure rate is to be reduced. Given a certain quality of bone and a standardized loading the influence of different designs can be analyzed. The transfer from primary to secondary stability can be analyzed following standard loading of one type of TAD in an animal model. The influence of the host, the patient who receives the TAD, can only be obtained by collecting information on the patients who have lost one or more TADs. The lecture will attempt to analyze the role of the TAD: of the handling including insertion and loading; and of the host, the patient, including insertion site and bone turn-over.

WIOC-03

The Combined Orthodontic and Surgical Management of the Alveolar Ridge Augmentation Using Distraction Osteogenesis and TADS

Dror Aizenbud



Orthodontic and Craniofacial Center, Graduate School of Dentistry, Rambam

Health Care Campus and Faculty of Medicine – Technion, Israel Institute of Technology, Haifa, Israel.

Alveolar defects can range from small isolated areas to extensive areas of bone loss involving the entire arch mostly due to congenial anomaly, tumor resections, traumatic avulsion of teeth, periodontal disease or alveolar bone loss post extraction. Distraction osteogenesis is a biological process of new bone formation between the surfaces of bone segments that are gradually separated by incremental traction. This procedure is currently in use to increase vertical and transversal bone volume of the alveolar ridge in traumatic and congenial anomaly patients, while the soft tissues are also reconstructed during its

application. However, alveolar ridge augmentation through distraction most often ends in a straight and flat alveolar ridge structure rather than a curvature line augmented bone. Temporary anchorage devices (TADs) may be inserted into the regenerated segment enabling multidirectional orthodontic force application to control the distraction vector thus achieving the proper alveolar ridge architecture.

The aim of this presentation is to describe the multidisciplinary approach applying a surgical, orthodontic and restorative management protocol. The technique begins with preliminary orthodontic treatment of leveling and alignment of both the maxillary and mandibular dental arches. Alveolar distraction osteogenesis is then applied for augmentation combined with TADs' insertion. The application of TADs for best anterior segment curvature enables dental implant insertion, better positioning and restoration. The results are good aesthetics, functioning and occlusal relationships.



WIOC-04

World Trendiest TAD: Beautiful Face First

Somchai Manopatanakul



Education:
1993: DDS.
(Honours)
Faculty of
Dentistry,
Mahidol
University

1996: GradDip. (Periodontics)
Faculty of Dentistry, Chulalongkorn
University

2000: MDS. (Orthodontics)
The University of Queensland
(AUSTRALIA)

2004: Diplomate Australasian Board
of Orthodontics

Work experiences:

1993-1996: Faculty of Dentistry,
Prince of Songkhla University

2000-now: Department of Hospital
Dentistry, Faculty of Dentistry,
Mahidol University

At present, orthodontic implant is the world trend of orthodontics. Orthodontists consider that treatment of very difficult cases using implant is trendy. Closing anterior open bite, intrusion of molars or treating mutilated malocclusion may also be considered trendy in orthodontics. However, do patients feel it? Naah... On the patients' side, some patients may consider the beautiful face rather than perfect occlusal interdigitation, the trendy issue for them. The trendiest issue for the

patients might be having a beautiful face within 3-4 months. Moreover, can they have beautiful face within 3-4 months time without any braces showed and also without pain? Would that be really really hip for the patients?

This presentation will discuss about all new technologies combined with implant orthodontics to achieve beautiful face first. Then, the alignment will be finished without any obvious braces. These new technologies include clear aligner, pain free low-to-no friction brackets or even no bracket and biomechanics of tooth movement with implant. It will transform TAD from trendy topic to "the world real trendiest orthodontics."

WIOC-05

Lessons learned from Animal Experiments for Using Miniscrews

Jane Chung-Chen



1983-1989:
National Taiwan
University
Taipei, Taiwan
1989-1991:NTU
Hospital Taipei,
Taiwan

1991-1997: UC, San Francisco

1996-1999: UC, San Francisco

1997-1999: UC, San Francisco

1999: UC, San Francisco

1999-2000: Dental Department,
NTU Orthodontics

2000-2008: Dental Department,
NTU

2004: Grad. Program in Oral Biology

(joined appointment)

2005-2008: Grad. Program
in Clinical Dentistry Assistant
Professor

2008: Grad. Program in Clinical
Dentistry Associate Professor

Animal experiments can avoid ethics problems with human studies. Animal experiments were performed to address: 1) With intentional direct root contact during insertion, what is the tissue response and whether this affects the stability of miniscrews? 2) What is the consequence of miniscrew or root undergoing collision during orthodontic treatment? 3) Will the stability of miniscrew be compromised, if it is loaded with a moment during orthodontic treatment?

In order to keep the experiments under the same condition, titanium bone screws, 2 mm in diameter and 11 mm long (Leibinger, Freiburg, Germany) were implanted into mongrel dogs. Screws were given various conditions to address those three issues. Mobility, removal torque and histological sections were examined.

Based on these data, we recommend that 1) screws can be planned to insert in the interradicular space only if there is a sufficient space for clearance between roots, since root touching will create higher risks for failure. 2) extensive root movement towards the miniscrew should be avoided. Titanium screw created a shallow concavity on root if tooth was moved against the screw during orthodontic treatment. 3) Moment loaded on the screws may be harmful. Though the stability of

certain screws loaded with either clockwise or counter-clockwise moment seemed to be affected, the removal torque value of the screws which remained until the end of experiments did not reach statistical significance when compared to the control group.

WIOC-06

3D Imaging and It's Role in Implant Planning in Orthodontics

Chung How Kau



Professor Kau is Chairman and Professor with Tenure in the Department of Orthodontics at the University

of Alabama in Birmingham. He is an active clinical practitioner and researcher with a keen interest in three-dimensional and translational research. He actively contributes and publishes in the orthodontic literature and currently has over 100 peer-reviewed publications, conference papers and lectures.

3D CBCT imaging has become a popular tool for diagnosis and treatment planning in orthodontics. This lecture will focus on the use of this technology in imaging the maxillo-mandibular region for temporary anchorage device (TAD) placement. It also depicts some of the clinical results after CBCT evaluation and makes suggestions

on the use of CBCT technology for favorable sites for TAD placement.

WIOC-07

Can 3-D Modeling and Finite Element Analysis Be Used as Clinical Tools for Planning Miniscrew Placement?

Peter Wing Hong Ngan



Cert. in Ortho, Pedo and Hospital Dentistry, (U. Penn), Diplomate, Amer. Board of

Pediatric Dentistry, Diplomate, Amer. Board of Orthodontics.

Stability of miniscrew implants depends upon good mechanical interlocking between the screw and the bone. Bone is subject to fatigue, especially when dynamic or excessive force is applied. The integrity of the peri-implant bone affects the long-term stability of miniscrew implants. Placement of the screws as well as the design including the depth of the threads, the edge of the threads, the shape and diameter have all been shown to affect the frequency of screw failure in the clinic. Currently, the planning of miniscrew placement is limited to the use of clinical judgment in addition to 2D panoramic radiographs. The

use of digital radiography can overcome some of the problems of image distortions resulting from magnification or image noise and reflections, but stress and strain distributions under orthodontic force application cannot be determined. Modern medical imaging, modeling and finite-element analysis (FEA) solutions can provide powerful tools for optimizing 3D morphology from radiographic scans and determining stress and deflection distributions for complex anatomical geometries such as bone. The speaker will discuss the use of 3-D modeling and FEA to determine the stress profile on the miniscrew implant and peri-implant bone upon application of orthodontic force. In addition, the effects of orthodontic bracket hook length and angle of force application on resulting stress response of PDL will be used as examples on how these modern tools can be used clinically to plan for miniscrew placement.

WIOC-08

New Advances in Posterior Intrusion and Mini-Screw Design

M. Ali Darendeliler



Dr M. Ali Darendeliler is Professor and Chair of Orthodontic Discipline of Orthodontics,

at the University of Sydney and Head of Department, Sydney



Dental Hospital, Sydney South West Area Health Service. He received his dentistry training from the University of Istanbul and his PhD from the University of Gazi, in Turkey and his first specialist training in orthodontics from the University of Geneva, Switzerland and his second specialist training from the High Education Council, Turkey. During the course of his career he has undertaken duties as a clinical instructor, research and postgraduate coordinator (Maître d' Assistant et de Recherche) at the University of Geneva, Assistant Professor at the University of North Carolina, Research Professor at the University of Southern California. His research interests include orthodontic tooth movement, root resorption, obstructive sleep apnoea, temporary anchorage devices, sequential aligners, self-ligating brackets, orthopaedic treatment modalities, magnetic fields and forces and dentofacial orthopedics. He lectured in North and South America, Europe, Asia, Africa and Australia

Following the introduction of the Temporary Anchorage Devices laboratory and clinical research focused on simplifying direct and indirect anchorage methods and mechanics as well as in improving the primary and secondary stability of mini-screws. Different ways of applying intrusion mechanics and a new screw design to increase stability have been tested at the University of Sydney.

WIOC-09

Preparation of Optimal Design and Surface Functionalization on Metal-Based Mini-Implants in Vitro

Hsin-Chung Cheng



Director, orthodontic department, Taipei Medical University Hospital, and Associated

professor, Taipei Medical University, Taipei, Taiwan

Birth date, 1959,8,30

DDS, Taipei Medical University. (1977-1983)

Resident training on general dentistry, Chang-Gung Memorial Hospital. (1985-1987)

Diploma in orthodontics, Chang-Gung Memorial Hospital. (1987-1990)

Research fellow, craniofacial center, Chang-Gung Memorial Hospital. (1990-1993)

MSD in orthodontics, Taipei Medical University. (1993-1995)

PhD in biomaterial and bioengineering, Taipei Medical University. (2004-2008)

Director, orthodontic department, Taipei Medical University Hospital. (1995-now)

Chairman, department of dentistry, Taipei Medical University Hospital. (1997-now)

Associate professor, Department of

Dentistry, Taipei Medical University. (2007-now)

Director, Office of Continuing & Extension Education, Taipei Medical University. (2009-now)

Deputy President of board of directors, Taiwan Association of Orthodontists. (2000-2007), Chief Supervisor, TAO ((2007- now) Director, Center for Publishing Affairs, Taipei Medical University. (1999-2006)

Vice superintendent, Taipei Medical University Hospital. (2005-2009)

President, Association of Family Dentistry, ROC. (2006-2010)

President, Taiwan Association of Oral Health Care. (2003-2005)

Secretary General, Association for Dental Sciences of the Republic of China. (2005-2007), Deputy

President of board of directors, ADSROC (2007-now)

Deputy President of board of directors, Taiwan Dental Association. (1999-2005)

Metal-based implant alloys have been widely used as artificial implants such as dental implants, mini-implants and metal plates. Among them, titanium-based ferrous-based alloy are commonly applied as materials of mini-implants. Because the formations of native oxide films are investigated as titanium exposures in air environment, the oxide film possesses excellent biocompatibility. Furthermore, several studies have demonstrated that as increasing the thickness of the oxide layer, hemocompatibility of the oxide layers was obviously improved obviously. It also shows

that the titanium surface containing oxide layer, so there is characteristic that has finer biological compatibility more than other metals. However, the native oxide is too thin, resulting in being not able to prevent relation of metal ions. Therefore, there have many surface treatment methods such as machinery processing, functional processing, physical vapor deposition, sandblasting, thermal oxidation, and acid etching. All of them, the other purposes of the surface treatments are to enhance the anchorage capability. However, mini-implant is kind of temporary biomedical implant. How to enhance the anchorage capability of mini-implants and remove the mini-implant easily is an important issue. Consequently, this study has two objectives. First, this study investigates the possibilities and limitations of surface treatments for controlled anchorage capability of mini-implants. The optimal functional processing will be discussed serially. Second, this study examines the use of optimal surface modification to enhance the blood compatibility of mini-implant. Properties of untreated and treated mini-implants were evaluated by material analysis and biocompatible test, and animal test.

WIOC-10

The Practical Application of Temporary Skeletal Anchorage Device (TSAD) in Dental and Maxillofacial Fields

Satoshi Kozato



1997: School of Dentistry, Aichi-Gakuin University (D.D.S.)
2003 Graduate School of

Dentistry, Aichi-Gakuin University (Ph.D.)

2003-2009 Deputy Chief of Clinic, Kozato Dental and Orthodontic Clinic

2003-2006: Part-time Research Associate, Department of Orthodontics, School of Dentistry, Aichi-Gakuin University

2003- Part-time doctor, Department of Oral and Maxillofacial Surgery, Kagawa Prefectural Central Hospital

2006- Part-time lecture, Department of Orthodontics, School of Dentistry, Aichi-Gakuin University

2008- Part-time doctor, Department of Plastic and Reconstructive Surgery, Kagawa University Hospital

2009- Kozato Orthodontic Clinic

It has already become widely common in the use TSAD in various orthodontic treatments.

TSADA is absolutely necessary for the patients with severe orthodontic

problems.

Because of its stability, even in the limited uses in oral and dental regions, it has also drawn the clinical interests of other dental and maxillofacial fields for its usefulness. While searching for a better success rate with TSAD, there has been research concerning which screw types and surface situations work best.

I would like to introduce a new idea in novel screw type TSAD and, then second, the other uses and methods that TSAD have potentials in other fields. I hope that these utilities could help you improve your orthodontic treatments better.

One idea on screw shape

No matter how much money or effort you spend on researching screw types and surfaces that doesn't mean that you will receive the desired results. It was found that use of already processed screws that were currently being used caused the success rate to increase.

by performing full body anesthesia

It is common when someone has an accident and receives a large facial injury or has facial burns there are facial tears caused by damage and that makes it difficult to secure tracheal tube in place that is required for airway management. Using TSAD secure and easy capabilities, we can manage a stable intraoral jaw bones, mainly maxilla, where the tube for airway in anesthesia can be secured safely and certainly, further, making later surgeries possible.



use for sleep apnea syndrome(SAS)

NCPAP and Oral Appliance can be used for light and mild cases of SAS.

However, there were some patients that while using these had a sense of incongruity and were not able to use them. Because of their inability to use traditional methods to cure their affliction and the overwhelming effect it had on their daily lives, TSAD may offer a different option and can be used with the purpose of creating airways.

As an orthodontic surgeon and from a clinical stand point of view, I would like to lecture on the topics above. TSAD could give orthodontic surgeons the novel chances to participate in and contribute to other dental and maxillofacial fields.

WIOC-11

With a Little Bit of Help from My Friend

Loh Kai Woh



Dr. Loh graduated from the University of Singapore in 1976 and obtained his master of

dental science from the University of Pittsburgh in 1982 through a scholarship awarded by the National University of Singapore. He was a full time instructor at the National University of Singapore till 1986. He founded the Association

of Orthodontists, Singapore in 1991 and was the president for the first 2 years. He is the President of Asian Pacific Orthodontic Society 2010-2012. Dr. Loh has given presentation in Malaysia, Indonesia, Vietnam, Singapore, Japan, Thailand, China, Philippines, Taiwan, Australia and South Korea. He was a keynote lecturer at the 7th International Orthodontic Congress held in Sydney, in February 2010.

In all orthodontic mechanics, anchorage is perhaps the most important component of the whole biomechanic system. Many failures in orthodontic treatment are due to inadequate preparation for anchorage. In some cases, orthognatic surgery and extractions are indicated mainly because proper anchorage cannot be achieved. All extra oral anchorage depends on patient's cooperation. In cases where such cooperation is not fulfilled, the orthodontic results can be disastrous.

With a little bit of help from our friend, the orthodontic mini implant, what were impossible to be treated before, can now be treated. Extraction cases can be converted to non extraction cases. Teeth can be moved to distal end saddle areas. Uneven incisal plane can be leveled. Scissors bite of the upper 2nd molars is a common problem. In the past, such teeth were often removed but, they can now be saved. Treatments for patients with multiple missing teeth were always a problem, but now, they are more manageable. Even orthognatic surgery cases can be avoided when

orthodontic mini implants are used. Mini implant anchorage is truly an orthodontic revolution.

WIOC-12

Non-Surgical Treatment for Various Skeletal Malocclusions with Skeletal Anchorage System

Junji Sugawara



1973:
Graduated from Tohoku University
1973:
Instructor of the department of

orthodontics at Tohoku University
1981: Visiting assistant professor at the University of Connecticut
1991: Associate professor at Tohoku University
2006 - Present: Visiting professor at the University of Connecticut
2007- Present: Director, SAS Orthodontic Centre, Ichiban-cho Dental Office, Sendai, Japan

The Skeletal Anchorage System (SAS) consists of orthodontic miniplates and monocortical screws that are temporarily implanted in the zygomatic buttress or the mandibular body, or in both, as absolute anchorages. Since miniplates are placed outside of the dental arches, they do not disturb teeth movement of any kind. The most distinguished feature of the SAS is it enables us to predictably

move molars with ease as we can move teeth in the anterior dentition. Therefore, it has become possible to camouflage skeletal malocclusion that has been recognized as an indication for orthognathic surgery in conventional orthodontic diagnosis. Furthermore, as SAS is a non-compliance appliance and functions like an invisible headgear, it is extremely effective biomechanics for adult orthodontics.

In this conference, I will principally focus on skeletal Class II open-bite and Class III patients who require SAS biomechanics for camouflage. For instance, intrusion of the upper and lower molars with the application of SAS is effective to correct anterior open-bite with skeletal Class I or Class II facial type. Distalization of molars and/or entire dentition is useful for improvement of Class II or Class III malocclusion with or without mandibular asymmetry.

Thus, we can significantly decrease the number of orthognathic cases. The SAS has become an indispensable modality to camouflage any type of malocclusions with skeletal disharmonies in our clinical orthodontics.

WIOC-13

Extreme Orthodontics: Application of Micro-Implant for Orthopedic Correction

Won Moon



UCLA School of Dentistry, Section of Orthodontics, Certificate in Orthodontics, 1991

UCLA School of Dentistry, Section of Oral Biology MS, 1991

Harvard School of Dental Medicine, D.M.D., 1989

University of California, Irvine, BS in Mathematics, 1984

The primary aim of this presentation is to explore and to expand the application of Micro-Implant Technology in orthopedic correction of maxillofacial complexes rather than limiting its use only as an anchorage device. Clinical and mechanical obstacles associated with orthopedic correction utilizing the conventional orthodontic treatment modalities will be explored, and several new approaches eliminating these problems by the use of Micro-Implants will be presented. Several clinical cases involving significant changes in maxillofacial complexes will be examined in detail.

The secondary aim is to demonstrate the application of

Micro-Implants in Non-Surgical correction of malocclusions manifested by skeletal disharmony. Several clinical cases will be presented and examined in detail.

It is clear that orthopedic correction is possible in 3-D when utilizing the Micro-Implant Technology. The use of growth modification technique in conjunction with this new device opens doors to many new possibilities. The Micro-Implant technology brings exciting new dimensions to the discipline of orthodontics. Despite the enormous popularity and interests it commends, we have only seen the tip of an iceberg. Many more research and clinical studies are necessary in order to fully understand the impact it will have on all of us.

WIOC-14

Dentofacial Orthopedic Correction of Complex Malocclusions with Osseointegrated TADs and ISPs

W. Eugene Roberts



Dr. Roberts received a DDS from Creighton University, a PhD in Anatomy from the University

of Utah, and Clinical Certification in Orthodontics from the University