

## TOPIC:

### *"TENT POLE"* GRAFTING

#### For Complicated Alveolar Defects

## ABSTRACT

*"TENT POLE"* concept for reconstruction of severely resorbed mandible as an adjunct procedure of complicated implant restoration was first advocated by Prof. Robert E. Marx who published a series of 64 consecutive successful cases through submental approach in the year 2002. However, in my hand, the "Tent Pole" grafting concept could also be extrapolated in atrophic upper & lower jaws with significantly vertical dimensional loss through intraoral approach either by para-crestal or vestibule incisions. Of all the biomaterials serving as "Tent Pole", I'd like to introduce autogenous iliac *"J-Bone Block"* which is basically an onlay bone graft harvested from antero-medial aspect of ilium. It allowed contour adjustment only by simple hand instruments such as rongeur or bone cutter, to be secured properly and intimately at recipient site by one mini-screw on each bone block so that transverse & vertical alveolar ridge augmentation could be achieved simultaneously. According to the differences of Pre-Op & 6 months Post-Op CBCT images calculated by computer software, *"Mimics"*, the average early volume shrinkage of the transplanted iliac J-Bone Blocks is about 17.3% with usually more than enough ridge volume left for placing regular diameter dental implants at ideal location and axial alignment. Subsequent overall survival rates of all these implant supported restorations are high above 95% in this author's case series.

# Curriculum Vitae

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## Present Positions :

### **Chairman, (2010~)**

Department of Dentistry,  
Taichung China Medical University Hospital. Taiwan.

### **Chief, ( 2002 ~ )**

Division of Oral and Maxillofacial Surgery,  
Taichung China Medical University Hospital.  
Taichung City, Taiwan.

### **Assistant Professor, (2011 ~)**

School of Dentistry, College of Medicine, Taichung China  
Medical University, Taichung City, Taiwan.

### **Executive Director /Chairman of International Committee, (2011 ~)**

Taiwan Association of Oral & Maxillofacial Surgeon

### **Editorial board members, (2009 ~ 2015)**

Taiwan Journal of Oral & Maxillofacial Surgery

### **Editorial board members, (2009 ~ )**

Asian Journal of Oral & Maxillofacial Surgery

### **Editorial Board Members, (2012~)**

Annals of Maxillofacial Surgery

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Education :

**1980~1986 D.D.S.**  
**School of Dentistry, Kaohsiung Medical University, Taiwan.**  
**1993 Implant Course, University of Alabama at Birmingham, USA**  
**1998 Bone Grafting Course, University of Miami, USA**  
**2001 Orthognathic Surgery Course, National Seoul University, Korea.**  
**2000~2002 M.S.**  
**Institute of Medical Science, China Medical University, Taiwan.**

Experiences :

**1986~1988 Military Surgeon**  
**1988~1990 Resident, Department of Oral & Maxillofacial**  
**Surgery, Kaohsiung Medical university Hospital,**  
**Kaohsiung City, Taiwan**  
**1990~1992 Chief Resident, Department of Oral & Maxillofacial**  
**Surgery, Kaohsiung Medical University Hospital,**  
**Kaohsiung City, Taiwan**  
**1992~1997 Attending Surgeon, Department of Dentistry, Sha Lu**  
**Tung's General Hospital, Taichung County, Taiwan**  
**1994~1996 Attending surgeon, Department of Oral &**  
**Maxillofacial Surgery Chia-Yi Christian Hospital,**  
**Chiayi City, Taiwan**  
**1994~1997 Attending Surgeon, Department of Oral &**  
**Maxillofacial Surgery, Kaohsiung Medical University**  
**Hospital, Kaohsiung City, Taiwan**  
**1997~2000 Chief, Department of Dentistry, Sha-Lu Tungs**  
**General Hospital Taichung County, Taiwan**  
**1998~2003 Attending Surgeon, Department of Oral &**  
**Maxillofacial Surgery, China Medical University**  
**Hospital, Taichung City, Taiwan**

**2004 ~ 2011 Senior Lecturer,  
School of Dentistry, Taichung China Medical University.  
Taichung City, Taiwan.**

**Chairman, ( 2005 ~ 2009)  
Constitutional Committee, Taiwan Association of Oral &  
Maxillofacial Surgeon**

**Vice Chairman, ( 2005 ~ 2009)  
Educational Committee, Taiwan Association of Oral &  
Maxillofacial Surgeon.**

**Chairman, ( 2008, 2016)  
Organizing Committee, of the 20<sup>th</sup> & 28<sup>th</sup> Annual Conference on  
Oral & Maxillofacial Surgery at China Medical  
University, Taichung City, Taiwan.**

Recent Invited Speech Abroad:

**Singapore National University, Sep. 2008**  
**Vietnam Association of Stomatology, Oct. 2010**  
**34<sup>th</sup> APDC at Taipei, Jun. 2012**  
**57<sup>th</sup> Annual Congress of Japanese Society of Oral &  
Maxillofacial Surgery. Oct. 2012**  
**36<sup>th</sup> APDC at Dubai, United Arab Emirates. Jun 2014**

Awards :

**2000 The Best Thesis in the 12<sup>th</sup> Annual Conference on Oral &  
Maxillofacial Surgery, Kaohsiung city, Taiwan.**

**2001 The Best Teaching Staff of the Department of Dentistry,  
University Hospital of China Medical University, Taichung  
city, Taiwan.**

**2003 The Best Teaching Staff of the Department of Dentistry,  
University Hospital of China Medical University, Taichung  
city, Taiwan.**

**2006 The Best Thesis in the 18<sup>th</sup> Annual Conference on Oral &  
Maxillofacial Surgery, Tainan city, Taiwan.**

**2007 Award of Outstanding Contributions on Clinical Teaching  
& Research, Taichung China Medical University, Taichung  
city, Taiwan**

**2014 The Best Teaching Staff of the Department of Dentistry,**

**University Hospital of China Medical University, Taichung city, Taiwan.**

**2014 The Best Teaching and Innovative Teacher of Dentistry, China Medical University, Taichung city, Taiwan.**

Membership :

**Diplomate, Taiwan Association of Oral & Maxillofacial Surgery  
Diplomate, Taiwan Association of Oral & Maxillofacial Radiology  
Diplomate, ROC (Taiwan) Academy of Oral Implantology  
Diplomate, Taiwan Head & Neck (Oncology) Society  
Fellow, International Association of Oral & Maxillofacial Surgeons  
Fellow, Asian Association of Oral & Maxillofacial Surgeons  
Fellow, International College of Dentists**

Clinical Specialties & Research Interests :

**Orthognathic Surgery :**

**Dento-facial Deformities**

**Obstructive Sleep Apnea**

**Complicated Implant Related Surgery :**

**Bone Block Grafting for Ridge Augmentation**

**Sinus Elevation & Subantral Augmentation**

**Simultaneous Implantation and Tent Pole Grafting**

**Guided Bone Regeneration**

**Soft Tissue Augmentation**

**Oral & Maxillofacial Trauma**

**Temporal Mandibular Disorders**

**TransOral Approach for TMJ ankylosis**

**Autogenous Bone Graft Harvesting from**

**Tibial Plateau**

**Anterior Iliac Crest**

**IntraOral Donor Sites**

**Reconstruction of Jaw Bone Continuity Defects**

Recent Publication :

- (1) Intraoral Approach for Arthroplasty for Correction of TMJ Ankylosis(2009)**
- (2) Treatment of large jaw bone cysts in children(2009)**
- (3) Effects of Elasticity and Structure of Trabecular Bone on the Primary Stability of Dental Implants(2010)**
- (4) Biomechanical simulation of various surface roughnesses and geometric designs on an immediately loaded dental implant(2010)**
- (5) Iliac "J-Bone Block" for Augmentation of Complicated Alveolar Defects(2010)**
- (6) Association Between the Hypoxia Inducible Factor-1 $\alpha$  Polymorphisms and the Tumor Size of Oral Squamous Cell Carcinoma(2011)**
- (7) Lysyl Oxidase Enhances Cell Proliferation and Angiogenesis in Oral Squamous Cell Carcinoma(2012)**
- (8) Incidence and clinical significance of zygomaticomaxillary complex fracture involving the temporomandibular joint with emphasis on trismus(2012)**
- (9) Three-dimensional bone structure and bone mineral density evaluations of autogenous bone graft after sinus augmentation: a microcomputed tomography analysis(2012)**
- (10) Epigallocatechin gallate sensitizes CAL-27 human oral squamous cell carcinoma cells to the anti-metastatic effects of gefitinib (Iressa) via synergistic suppression of epidermal growth factor receptor and matrix metalloproteinase-2(2012)**
- (11) AKT serine/threonine protein kinase modulates bufalin-triggered intrinsic pathway of apoptosis in CAL 27 human oral cancer cells(2012)**
- (12) Predicting cortical bone strength from DXA and dental cone-beam CT(2012)**
- (13) Relation between insertion torque and bone-implant contact percentage: an artificial bone study(2012)**
- (14) Microcomputed tomography analysis of particulate autogenous bone graft in sinus augmentation at 5 months: Differences on bone mineral density and 3D trabecular structure(2013)**
- (15) Biomechanical investigation on thread designs and interfacial conditions of zirconia and titanium dental implants with bone: 3D numerical analysis(2013)**

- (16) Tibial Cancellous Bone Grafting in Jaw Reconstruction: 10 Years of Experience in Taiwan.(2013)**
- (17) Curcumin-loaded nanoparticles induce apoptotic cell death through regulation of the function of MDR1 and reactive oxygen species in cisplatin-resistant CAR human oral cancer cells(2013)**
- (18) Trabecular bone structural parameters evaluated using dental cone-beam computed tomography: cellular synthetic bones(2013)**
- (19) Antitumor effects of BI-D1870 on human oral squamous cell carcinoma(2013)**
- (20) Cytocompatibility and Antibacterial Properties of Zirconia Coatings with Different Silver Contents on Titanium(2013)**
- (21) Antibacterial Properties and Cytocompatibility of Tantalum Oxide Coatings with Different Silver Contents(2013)**
- (22) MicroRNA-20a regulates autophagy related protein-ATG16L1 in hypoxia-induced osteoclast differentiation(2015)**
- (23) Isoliquiritigenin as a cause of DNA damage and inhibitor of ATM expression leading to G2/M phase arrest and apoptosis in oral squamous cell carcinoma.(2015)**
- (24) Hinokitiol suppressed pan-histone expression and cell growth in oral squamous cell carcinoma cells(2015)**