



2026 ASIAN PACIFIC PLASTIC SURGERY & CRANIOFACIAL CONGRESS ✦



36th Annual Meeting of the Society of Plastic and Reconstructive Surgeons of Thailand
and the Society of Aesthetic Plastic Surgeons of Thailand



14th Biennial Congress of Asian Pacific Craniofacial Association



11th Asian Pacific Cleft-Lip-Palate & Craniofacial Congress



19th Annual Meeting of Thai Cleft Lip-
Palate & Craniofacial Association

CONFERENCE BOOK ✦



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WELCOME MESSAGE

PRESIDENT OF ORGANIZING COMMITTEE

Associate Professor Chalermpong Chatdokmaiprai

President of Organizing committee



On behalf of the Organizing Committee, it is my great honor and pleasure to welcome you to the 2026 Asia Pacific Plastic Surgery & Craniofacial Congress, to be held at the Centara Grand at Central Plaza Ladprao Bangkok.

This important congress represents a unique collaboration among leading professional organizations in the region: the Asian Pacific Craniofacial Association (APCA), the Asian Pacific Cleft-Lip-Palate & Craniofacial Congress (APCLPC), the Thai Cleft Lip-Palate & Craniofacial Association (TCCA), the Society of Plastic and Reconstructive Surgeons of Thailand (ThPRS), and the Society of Aesthetic Plastic Surgeons of Thailand (ThSAPS). Through this partnership, the congress aims to bring together distinguished surgeons, researchers, and healthcare professionals from across the Asia-Pacific region and beyond.

This meeting will serve as an exceptional platform for the exchange of knowledge, experience, and the latest advances in plastic, reconstructive, aesthetic, and craniofacial surgery. Our scientific program has been carefully designed to encourage meaningful discussions, promote interdisciplinary collaboration, and highlight innovations that continue to advance our field. Importantly, the congress will also provide a valuable stage for young surgeons and emerging investigators to present their research, share new ideas, and showcase innovative techniques. We strongly believe that nurturing the next generation of surgeons is essential to the continued progress of plastic and craniofacial surgery in our region.

Beyond the scientific program, we hope that you will also enjoy the vibrant culture, warm hospitality, and renowned cuisine of Bangkok. We trust that this congress will foster lasting professional relationships and inspire new collaborations that will benefit our patients and our profession.

We look forward to welcoming you to Bangkok for what promises to be a memorable and enriching congress.

WELCOME MESSAGE

THE SOCIETY OF PLASTIC AND RECONSTRUCTIVE SURGEONS OF THAILAND (THPRS)

Associate Professor Palakorn Surakunprapha, M.D.

President, The Society of Plastic and Reconstructive Surgeons of Thailand (ThPRS)



On behalf of the Society of Plastic and Reconstructive Surgeons of Thailand (ThPRS), it is my great honor to invite you to attend the 2026 Asian Pacific Plastic Surgery & Craniofacial Congress, which will be held from October 28–30, 2026, at the Centara Grand at Central Plaza Ladprao, Bangkok.

As we proudly host the 14th APCA, 11th APCLPC, and 19th TCCA, in conjunction with the 36th Annual Meeting of ThPRS and ThSAPS, this year's congress will feature an exceptionally comprehensive scientific program. In addition to updates in Aesthetic and Reconstructive Surgery, participants will have a unique opportunity to enhance their knowledge in Cleft Lip and Palate and Craniofacial Anomalies, spanning from primary repair to secondary refinements.

This congress will serve as a premier platform for global networking, knowledge exchange, and clinical innovation. I warmly encourage all members and residents to participate and share their expertise at this landmark event.

Registration and abstract submission will open on March 23, 2026. I very much look forward to welcoming you to Bangkok this October.

WELCOME MESSAGE

THE SOCIETY OF AESTHETIC PLASTIC SURGEONS OF THAILAND (THSAPS)

Professor Emeritus Apirag Chuangsuwanich, MD
President, The Society of Aesthetic Plastic Surgeons
of Thailand (ThSAPS)



On behalf of the Society of Aesthetic Plastic Surgeons of Thailand (ThSAPS), it is my great honor and pleasure to warmly welcome you to the 2026 Asian Pacific Plastic Surgery & Craniofacial Congress, to be held from October 28–30, 2026, at Centara Grand at Central Plaza Ladprao, Bangkok, Thailand.

This three-day congress brings together distinguished experts, surgeons, and healthcare professionals from Thailand, across the Asia-Pacific region, and beyond. Through keynote lectures, scientific presentations, panel discussions, and professional exchange, we aim to provide a dynamic platform for sharing knowledge, exploring innovation, and advancing the practice of plastic, reconstructive, aesthetic, cleft, and craniofacial surgery.

We are especially honored to host this congress in collaboration with the Asian Pacific Craniofacial Association (APCA), the Asian Pacific Cleft-Lip-Palate & Craniofacial Congress (APCLPC), and the Thai Cleft Lip-Palate & Craniofacial Association (TCCA). This collaboration reflects our shared commitment to surgical excellence, multidisciplinary care, education, and better outcomes for our patients.

Beyond the scientific program, we hope this congress will provide an opportunity to build new collaborations, strengthen professional networks, renew friendships, and create lasting connections across countries and generations of surgeons.

Bangkok, with its rich cultural heritage, warm hospitality, and vibrant contemporary life, offers a wonderful setting for learning, exchanging ideas, and reconnecting with colleagues from around the world.

We sincerely hope that your participation in the 2026 Asian-Pacific Plastic Surgery & Craniofacial Congress will be scientifically rewarding, professionally inspiring, and personally memorable.

We look forward to welcoming you to Bangkok and to sharing an enriching and enjoyable congress together.

WELCOME MESSAGE

ASIAN PACIFIC CRANIOFACIAL ASSOCIATION



Professor Nond Rojvachiranonda

President, Asian Pacific Craniofacial Association (APCA)

On behalf of the Asian Pacific Craniofacial Association (APCA), it is our great honor to extend a formal invitation to you for the 14th APCA Congress, to be held in Bangkok, Thailand, from October 28–30, 2026.

This premier event will convene the world's leading craniofacial and cleft surgeons, pediatric neurosurgeons, orthodontists, speech-language pathologists, and dedicated allied health professionals. We are curating a comprehensive scientific program designed to showcase the most significant advancements, pioneering research, and innovative techniques in our field.

A distinctive feature of this congress is its unique intersection with the field of Plastic Surgery. Attendees will have an unparalleled opportunity to engage with a broader community of experts and explore a wide range of interdisciplinary topics, fostering holistic approaches to patient care.

Set against the dynamic and welcoming backdrop of Bangkok, this congress promises to be both an inspiring academic event and a memorable occasion for professional collaboration and global friendship.

We eagerly anticipate the opportunity to welcome you to Bangkok for what promises to be an exceptional experience.

WELCOME MESSAGE

ASIAN PACIFIC CLEFT LIP AND PALATE CRANIOFACIAL CONGRESS



Professor Dr. Bowornsilp Chowchuen

President, The 11th Asian Pacific Cleft Lip and Palate Craniofacial Congress (APCLPC 2026)

It is my great honor and pleasure to warmly welcome you to the 11th Asian Pacific Cleft Lip and Palate Craniofacial Congress (APCLPC 2026), to be held in Bangkok, Thailand, during 28th–30th October 2026, in collaboration with the Asian Pacific Craniofacial Association (APCA), the Asian Pacific Cleft-Lip-Palate & Craniofacial Congress (APCLPC), the Thai Cleft Lip-Palate & Craniofacial Association (TCCA), the Society of Plastic and Reconstructive Surgeons of Thailand (ThPRS), and the Society of Aesthetic Plastic Surgeons of Thailand (ThSAPS).

The APCPC Congress was first established in Singapore in 1988 and has since grown into a vital platform for collaboration and knowledge exchange across the region: Taipei (1991), Rotorua (1995), Fukuoka (1999), Seoul (2003), Mumbai (2007), Perth (2011), Penang (2015), Khon Kaen (2019), and Taipei (2023). Each congress has strengthened our shared commitment to advancing comprehensive cleft and craniofacial care.

Bangkok, the vibrant capital of Thailand, was founded in 1782 by King Rama I. From its origins as a riverside trading community, the city has evolved into a dynamic global metropolis—rich in cultural heritage, diversity, and innovation. Today, Bangkok serves as a gateway where tradition and modernity harmoniously coexist.

Cleft lip, palate, and craniofacial care are undergoing significant transformation. The future lies in strong multidisciplinary team building, strategic ecosystem development, and long-term comprehensive care. These directions are closely aligned with the United Nations Sustainable Development Goals—SDG 3 (Good Health and Well-being), SDG 10 (Reduced Inequalities), and SDG 17 (Partnerships for the Goals).

We warmly invite you to join us in Bangkok—to share knowledge, exchange ideas, and co-create a better future for our patients and communities. Together, we can continue to build a more inclusive, sustainable, and compassionate model of care.

WELCOME MESSAGE

THAI CLEFT LIP–PALATE & CRANIOFACIAL ASSOCIATION

Assistant Professor Krit Khwanngern

President, Thai Cleft Lip–Palate & Craniofacial Association



On behalf of the President of the Thai Cleft Lip–Palate & Craniofacial Association (TCCA), we warmly invite you to engage in the scientific program, connect with colleagues, and enjoy the hospitality of Bangkok. We look forward to meeting you in October 2026.

ORGANIZING COMMITTEE



President of Organizing Committee APC 2026

Asso. Prof. Chalermpong Chatdokmaiprai

President of the Society of Plastic and Reconstructive Surgeons of Thailand (ThPRS)

Asso. Prof. Palakorn Surakunprapha

President of the Society of Aesthetic Plastic Surgeons of Thailand (ThSAPS)

Prof. Apirag Chuangsuwanich

President of the Asian Pacific Craniofacial Association (APCA)

Prof. Nond Rojvachiranonda

President of the Asian Pacific Cleft-Lip-Palate & Craniofacial Congress (APCLPC)

Prof. Bowornsilp Chowchuen

President of Thai Cleft Lip-Palate & Craniofacial Association (TCCA)

Asst. Prof. Krit Khwanngern

Honorary Advisory Committee

Prof. Charan Mahatumarat

Clinical Assoc. Prof. Dr. Somchai Satravaha

Scientific Committee

Clinical Professor Nita Viwattanatipa

Asso. Prof. Poonpissamai Suwajo

Dr. Sarayuth Dumrongwongsiri

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Dr. Wansiya Kamonsitichai

Assist. Prof. Sitthichoke Taweepraditpol

Assist. Prof. Sarut Chaisrisawadisuk

Assoc. Prof. Dr. Sutin Chinaporntham

Watcharaporn Sitthikamtiub

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Dr. Paveena Lawanlakkana

Financial Committee

Dr. Yingyot Santithananon
Chutimon Panyakham
Sineenuch Changkai

Abstract book Committee

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Asst. Prof. Niphon Klai-on
Asst. Prof. Danaiya Supakanjanakanti
Asst. Prof. Niti Tawaranurak

Scientific exhibition Committee

Clinical Professor Nita Viwattanatipa
Assoc. Prof. Nuntigar Sonswan
Assoc. Prof. Wimon Sirimaharaj

Sponsor exhibition Committee

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Assoc. Prof. Kengkart Winaikosol
Asst. Prof. Dr. Narissaporn Chaiprakt
Pornprapa Wongtem
Thitima Singchoowong

Registration Committee

Natthasart Unasri
Thitima Singchoowong
Suteera Pradubwong

ORGANIZING COMMITTEE



Secretary of the Organizing Committee

Asst. Prof. Saran Worasakwutiphong
Suteera Pradubwong
Pornprapa Wongtem
Thitima Singchoowong
Thita Pitimahajanaka
Artiteeya Dangsomboon
Supaporn Srimai

ASIAN PACIFIC CRANIOFACIAL ASSOCIATION (APCA)



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Dr. Nond Rojvachiranonda (Thailand)

Secretary-Treasurer

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Officer

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Dr. Weimin Shen (China)

Dr. Magda Hutagalung (Indonesia)

Dr. Nobuyuki Mitsukawa (Japan)

Dr. Lay Hooi Lim (Malaysia)

Dr. Vincent K.L. Yeow (Singapore)

Dr. Pang-Yun Chou (Taiwan)

Past President

Dr. Lun-Jou Lo (Taiwan)

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THPRS

President

Palakorn Surakunprapha

Vice President

Pornthep Pungrasmi

Secretary

Sitthichoke Taweepraditpol

Deputy Secretary

Kengkart Winaikosol

Treasurer

Poonpissamai Suwajo

Executive Committee

Thanasit Kangkorn

Kidakorn Kiranantawat

THE SOCIETY OF AESTHETIC PLASTIC SURGEONS OF THAILAND



THSAPS

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Vice President

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Dr. Thanasit Kangkorn

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Dr. Poonpissamai Suwajo

Assistant Secretary-General

Dr. Pitawan Ratchata

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Assistant Academic Affairs

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Assistant Public Relations

Dr. Thana Chueabundit

International Relations

Dr. Saran Worasakwutiphong

Assistant International Relations

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Dr. Kengkart Winaikosol

Eastern Regional Representative

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Northern Regional Representative

Dr. Wimon Sirimaharaj

Southern Regional Representative

Dr. Orawan Chansanti

THE THAI CLEFT LIP-PALATE AND CRANIOFACIAL ASSOCIATION



The Thai Cleft Lip-Palate
and Craniofacial Association

สมาคมความพิการปากแหว่ง เพดานโหว่
ใบหน้าและศีรษะแห่งประเทศไทย

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Asst. Prof. Dr. Krit Khwanngern

Vice President

Professor Thongchai Nuntanaranont

Secretary-General

Asst. Prof. Saran Worasakwutiphong

Assistant Secretary-General

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Sineenuch Changkai

Treasurer

Supaporn Srimai

Assistant Academic Affairs

Dr. Warangkana Tonaree

Public Relations

Clinical Professor Nita Viwattanatipa

Registrar

Natthasart Unasri

Executive Committee

Prof. Dr. Benjamas Prathanee

Asso. Prof. Dr. Poonsak Pisek

Assoc.Prof. Nuntigar Sonswan

Assoc.Prof. Marasri Chaiworawitkul

Dr. Sarayuth Dumrongwongsiri

Dr. Peerasak Chortrakarnkij

Artiteeya Dangsomboon

SCIENTIFIC PROGRAM

28 OCTOBER 2026

Annual Meeting ThPRS & ThSAPS			Asian Pacific Craniofacial Congress 2026			Free Paper
Venue	Vibhavadee Ballroom A	Vibhavadee Ballroom B	Venue	Vibhavadee Ballroom C	Krungthep 2	Krungthep 4
07:30 - 08:30	Opening Ceremony		07:30 - 08:30	Opening Ceremony (Live streaming)		Opening Ceremony (Live streaming)
8:30 - 9:15	Plenary Lecture 1 Endoscopic Forehead Lift and Ptosis Surgery: from Anatomic Points to Practical Meanings Dr. Tae Joo Ahn (South Korea) Moderator: Dr. Palakorn Surakunprapha		8:30 - 9:30	Keynote Lecture: Craniofacial surgery Comprehensive surgical intervention for adult patients with cleft Prof. Lun-Jou Lo (Taiwan) Moderator: Assoc.Prof.Chalermpong Chatdokaiprai	Keynote Lecture: Craniofacial surgery (Live Streaming)	Keynote Lecture: Craniofacial surgery (Live Streaming)
9:15 - 9:45	The 17th Lim Koonvisarn Memorial Lecture (Thai language) Dr. Vichai Srimuninnimit Moderator: Prof. Apirag Chuangsuwanich		9:30 - 10:00	Plenary Lecture: Ecosystem Development for Effective long-Term Cleft Palate Care: Experience from the Tawanchai cleft center, Thailand Prof. Bowornsilp Chowchuen (Thailand) Moderator: Asst.Prof.Krit Khwannern	Plenary Lecture: (Live Streaming)	Plenary Lecture: (Live Streaming)
9:45 - 10:15	Coffee Break & e-posters & Exhibition		10:00 - 10:30	Coffee Break & e-posters & Exhibition		
10:15 - 11:00	Plenary Lecture 2: Dual Paddle FGMT for Facial Palsy Patients Prof. Oh-Tae Suk (South Korea) Moderator: Prof. Apichai Angspatt		10:30 - 11:30	CF1: Symposium - Cleft Surgery 1 Moderator: Dr. Peerasak Chortrakarnkij 1. Cleft Lip Repair as Framework Surgery: Comprehensive Mobilization and Repositioning of the Nasomaxillary Complex Prof. Baek Kyu Kim (South Korea) 2. Bilateral cleft lip repair and avoiding the complications Prof. Lun-Jou Lo (Taiwan) 3.Long Term outcome of Primary Lip Nose Repair an institutional understanding Dr. Ting-Chen Lu (Taiwan)	CF2: Symposium - Speech Moderator: Dr. Wansiya Kamonsitichai / Mr. Natthasart Unasri 1. Early Intervention Language and Speech therapy Dr. Macamen Pamplona (Mexico) ONLINE 2. Early Speech Therapy for Articulation disorders in Cleft Dr.Suraj Subramaniyan (India) ONLINE 3. Early Literacy in children with CLP Asst.Prof.Dr.Natwipa Wanicharoen (Thailand)	10:00 -12:15 Free Paper 1: Craniosynostosis: Diagnosis & Genetics & Cranial Surgery Chairman: Prof.Mark Moore Co-Chairman: Dr.Sarut Chaisrisawadisuk
11:00 - 11:30	Outstanding Plastic Surgeon 2026 (Thai language) Dr. Kamol Wattanakrai Moderator: Dr. Palakorn Surakunprapha					
11:30 - 12:15	Support Sym1: Supported by Motiva My Three-Year Experience with Preserve: Key Concepts, Clinical Benefits and Practical Learning Points Dr. Wouter Van De Pot (Netherlands)	Support Sym2: Supported by Dalichi Moderator: Dr. Kengkart Winaikosol Inhaled Methoxyflurane: Maximizing Procedural Efficiency and Patient Comfort in Plastic Surgery Dr. Thanate Thanasarnwimon / Dr. Chatpon Kongfeangfong	11:30 - 12:15	Support Symposium: (OSTEOPORE) Moderator: Asso.Prof. Kidakorn Kiranantawat Regenerative Matching Axial Vascularisation (RMAV): Reconstructing the 'Unreconstructable' with Vascularised Tissue and Bioresorbable 3D-Printed Scaffolds Dr. Michael Wagels (Australia)	Support Symposium: (OSTEOPORE) (Live Streaming)	
12:15 - 13:30	Lunch & e-posters & Exhibition		12:15 - 13:00	Lunch & e-posters & Exhibition		
13:30 - 15:00	S1: Facial Palsy Moderator: Prof. Apichai Angspatt 1. Facial Paralysis After Brain Tumor Surgery: Principles and Options for Reanimation Dr. Satit Wangwatcharakul 2. Practical Approach to Pediatric Facial Reanimation Dr. Pattama Punyavong 3. Corneal Neurotization Dr. Tsz Yin Voravitvet	S2: Chest Wall Reconstruction Moderator: Dr. Sitthichoke Taweepraditpol 1. From Permanent Hardware to Living Reconstruction: Bioresorbable 3D-Printed Scaffolds in Chest Wall, Sternal and Craniofacial Reconstruction Dr. Chew Khong Yik (Singapore) 2. Complex Chest Wall Reconstruction Dr. Pasu Promnyom 3. Chest Wall Reconstruction: From Soft Tissue to Skeletal Reconstruction – A Practical Approach Dr. Kengkart Winaikosol	13:00 - 14:00 BUSINESS MEETING of TCCA (Venue: Vibhavadee Ballroom C, Floor L)	BUSINESS MEETING of APCA (Venue: RANGSIT 1, Floor B)	BUSINESS MEETING of APCLPC (Venue: RANGSIT 2&3, Floor B)	14:00 -15:30 Free Paper 2: Cleft Palate: Reconstruction, Speech & Multidisciplinary Care Chairman: Assoc.Prof.Chalermpong Chatdokaiprai Co-Chairman: Asst.Prof.Dr. Wansiya Kamonsitichai Mrs. Suteera Pradubwong
			14:00 - 15:30	CF3: Cleft Surgery 2 Moderator: Dr. Thiti Tantitham 1. Curved line cheiloplasty in cleft lip patients Prof. Oh-Tae Suk (South Korea) 2. Cleft Lip Repair in Children With Trisomy 13 Dr. Ikkei Tamada (Japan) 3. Secondary Deformities in Cleft Lip and Palate: Surgical Strategies and Outcome-Driven Decision Making Dr.Ting-Chen Lu (Taiwan) 4.Unusual Cleft lip nose Reconstruction Assist.Prof. Kiatanant Boonsiriseth (Thailand)	CF4: Symposium- Orthodontic management Moderator: Clinical Prof. Nita Viwattanatipa 1. An update on innovations and digital disruptions in pre-surgical infants orthopedics Asst.Prof. Buddhathida Wangsrimongkol (Thailand) 2. Beyond the Appliance: Understanding and Preventing Complications in Nasoalveolar Molding Asso.Prof. Ratchawan Tansalarak (Thailand) 3. Orthodontic Considerations in the Cleft Maxilla Prof. Sarvraj Singh Kohli (India) 4. Determining Factors in the Indications for Maxillofacial Surgery in the 21st Century Assoc. Prof. Pham Nhu Hai (Vietnam)	
15:00 - 15:30	Coffee Break & e-posters & Exhibition		15:30 - 16:00	Coffee Break & e-posters & Exhibition		
15:30 - 17:00	S3: Breast Aesthetic 1 Moderator: Dr. Poonpissamai Suwajo 1. Untold Truth Breast Implant: Evidence into Real Practice Dr. Visnu Lohsirirwat 2. Optimizing Outcomes in Revision Breast Surgery: Fat Grafting, Internal Bra Techniques and Surgical Decision-Making Dr. Wouter Van De Pot (Netherlands) 3. Endoscopic Breast Augmentation in Asian Women: Surgical Planning, Technical Pearls, and Pitfall Avoidance Dr. Chang Tze-Chen (Taiwan)	S4: Nose 1 (Thai language) Moderator: Dr. Surawej Numhom 1. Asian Nose Reduction Surgery Dr. Anon Chayasadom 2. Managing the Contracted Nose Dr. Atikom Tanadpojanamart 3. Structure-integrated augmentation rhinoplasty: the NEO LLC concept Dr. Kidakorn Kiranantawat	16:00 - 17:00	CF5: Symposium - Alveolar Bone Graft Moderator: Assist.Prof. Kiatanant Boonsiriseth 1. ABG Asst.Prof.Krit Khwannern (Thailand) 2. Alveolar bone grafting -An institutional experience of 25 years Prof. Abhay N Datarakar (India) 3. Simultaneous Bone Graft for Alveolus Cleft in Two-Jaw Orthognathic Surgery Asso.Prof. Pang-Yun Chou (Taiwan)	CF6: Symposium - Innovation/Technology Moderator: Asst. Prof. Saran Worasakwutiphong 1. Deep Learning-Based Cranial and Mandible Reconstruction for Low-Resource Clinical Deployment Asst. Prof. Dr. Titipat Achakulvisut (Thailand) 2. Integrating Digital Technology in Comprehensive Cleft Care Prof.Sarvraj Singh Kohli (India) 3. ThaiCleft Link Asst.Prof.Krit Khwannern (Thailand)	16:00-17:00 Free Paper 3: Microtia & Craniofacial Vascular Anomalies Chairman: Prof. Nond Rojwachiranonda Co-Chairman: Pornthep Sirimahachaiyakul
18:00 - 21:00	Faculty Dinner (Salathai, Floor G) Invitation only					
**The sessions, Annual Meeting of Thai Society of Plastic Reconstructive Surgery (ThPRS) and The Society of Aesthetic Plastic Surgeons of Thailand (ThSAPS) (Vibhavadee A,B) are restricted to board-certified plastic surgeons						

SCIENTIFIC PROGRAM

29 OCTOBER 2026

Annual Meeting ThPRS & ThSAPS			Asian Pacific Craniofacial Congress 2026			Free Paper
Venue	Vibhavadee Ballroom A	Vibhavadee Ballroom B	Venue	Vibhavadee Ballroom C	Krungthep 2	Krungthep 4
8:30 - 9:15	Plenary Lecture 3: Lessons Learned from Nearly 3,000 Breast Reconstructions: What Really Matters Dr. Hyun Ho Han (South Korea) Moderator: Prof. Charan Mahatumarat		8:30 - 9:30	Keynote Lecture: Orthodontics Clinical Experience and Treatment Outcomes of the Chang Gung Protocol in Orthodontic Care for Cleft Lip and Palate Prof. Ellen Wen-Ching Ko (Taiwan) Moderator: Clinical Assoc. Prof. Dr. Somchai Satravaha	Keynote Lecture: Orthodontics (Live streaming)	Keynote Lecture: Orthodontics (Live streaming)
9:15-10:15	S5: Body Contouring 1 Moderator: Dr. Pornthep Sirimahachaiyakul 1. Body contouring with fat graft and ADM Filler Dr. Jae Hyun Bae (South Korea) 2. Rib Remodeling: The Final Piece of the Puzzle in Advanced Body Contouring Dr. Yen-Chou Chen (Taiwan) 3. The Modern Mommy Makeover: Advances in Body Contouring Dr. Jerry Chidester (USA)	How I do it Moderator: Prof. Chairat Burusapat 1. Ultrasonic Debridement in Complex Wounds: Tips, Tricks, and Pitfalls Dr. Niti Tawaranurak 2. Making Free Flap Routine: Building a Microsurgery Team from the Ground Up Dr. Egaboot Lewchalermwongse 3. Structural Facial Reinforcement of the High-Risk Lower Eyelid Using Tensor Fascia Lata: Prevention and Reconstruction of Post-Blepharoplasty Ectropion Dr. Teuku Adifitrian (Indonesia) 4. Colonic Vaginoplasty for Vaginal Agenesis: My Experience and Surgical Insights Dr. Kaweesak Saothonglang	9:30 - 10:30	Keynote Lecture - VPI and Voice Management Control of nasality and assessment of oral-nasal balance disorders Dr. Tim Bressmann (Canada) Moderator: Dr. Wansiya Kamonsitchai / Mr. Natthasart Unasri	Keynote Lecture: VPI and Voice Management (Live streaming)	Keynote Lecture: VPI and Voice Management (Live streaming)
10:15 - 10:45	Coffee Break & e-posters & Exhibition		10:30 - 11:00	Coffee Break & e-posters & Exhibition		
10:45 - 12:00	Best Reconstructive Cases (Thai language) Moderator: Dr. Palakorn Surakunprapha Winner of Best Creative Case: CA Rt Lateral Tongue / Subtotal Hemiglossectomy -> Chimeric MSAP Free Flap Dr. Phachara Longmeewong Winner of Best Innovative Case: Minimally Invasive Endoscopic Transorbital Approach and Ultrasound Assisted for Frontal sinus Fracture Dr. Atchara Setthajindalert Fronto-Orbital Bone Tumor Resection and In-House 3D-Printing-Assisted PMMA Custom Craniofacial Implant Dr. Tanasit Kangkorn Winner of Best Practical Case: High Voltage Electrical Injury with Expose Intrathoracic and Retroperitoneal Cavity Dr. Pongsak Lohakitsatian Lateral Supra-Malleolar Flap for Ankle Defect Coverage Dr. Chanoknan Techasukit Winner of Best Young Surgeon Case: Lateral Supramalleolar Flap for Reconstruction of Lateral Foot Defect Dr. Kanjanapan Jiwaramanee CA Buccal + Commissure -> RFFF + PL Sling Dr. Thanaphat Srisuwat	S6: Ethic/ กฎหมายทางศัลยกรรม (Panel Discussion) (Thai language) Dr. Torpon Vathana Dr. Sirachai Jindarak Moderator: Dr. Lek Kanjanakomut / Dr. Poonpissamai Suwajo	11:00-12:30 12:30 - 13:30	CF7: Craniofacial reconstruction Moderator: Asso.Prof. Kidakorn Kiranantawat 1. Fibula Free Flap: From Freehand to Jaw In A Day Assist. Prof. Dr. Boworn Klongnoi (Thailand) 2. Surgery for The Mysterious Joint (TMJ) Dr. Vikram Pandit (India) 3. Surgical reconstruction in Neurofibromatosis Type 1 associated Plexiform Neurofibromas Prof. ZhiChao Wang (China) 4. Palatal Fistula Management: From Simple Closure to Complex Reconstruction Asst. Prof. Dr. Chirakan Charoenvicha (Thailand)	CF8 Symposium - Orthodontic/OMFS management Moderator: Asso.Prof. Marasri Chaiworawitkul 1. Avoiding Orthognathic Surgery: Growth Modification in Cleft Patients Using BAMP Asst.Prof. Thanit Charoenrat (Thailand) 2. Anatomical, electrophysiological and functional characterization of the upper lip musculature in surgically rehabilitated cleft-lip patients and controls, as revealed by high-density surface EMG Dr. Johanna Radeke (Germany) 3. Maxillary Relapse After Le Fort I Osteotomy: Comparative Study of Class III Deformities in Patients With and Without Cleft Lip and Palate Asso.Prof. Pang-Yun Chou (Taiwan) 4. Orthognathic Surgery Considerations Clinical Prof. Nita Viwattanatipa (Thailand)	Free Paper 4: Cleft lip & Nose: Primary Care, Surgery & Outcomes Chairman: Dr. Ting-Chen Lu Co-Chairman: Dr. Peerasak Chortrakarnkij
12:00-12:45	Support Sym3: (Supported by Mentor) Beyond Implant Size: My Decision-Making Algorithm for Individualized Breast Augmentation: From Anatomy and Patient Goals to Implant and Pocket Selection Dr. Chang Tze-Chien (Taiwan)	Support Sym4: (Supported by Smith & Nephew) Transforming the Standard of Care in Aesthetic Surgery Dr. Jatuporn Suesat				

**The sessions, Annual Meeting of Thai Society of Plastic Reconstructive Surgery (ThPRS) and The Society of Aesthetic Plastic Surgeons of Thailand (ThSAPS) (Vibhavadee A,B) are restricted to board-certified plastic surgeons

SCIENTIFIC PROGRAM

29 OCTOBER 2026

Annual Meeting ThPRS & ThSAPS			Asian Pacific Craniofacial Congress 2026			Free Paper
Venue	Vibhavadee Ballroom A	Vibhavadee Ballroom B	Venue	Vibhavadee Ballroom C	Krungthep 2	Krungthep 4
12:45 - 13:30	Lunch & e-posters & Exhibition		12.30 - 13.30	Lunch & e-posters & Exhibition		
13.30-14.00	BUSINESS MEETING of ThPRS & ThSAPS (ประชุมกลุ่มงานประจำปีของสมาคมศัลยกรรมตกแต่งใบหน้าแห่งประเทศไทย 2 สมาคม)		13.30 - 15.00	CF9 - Craniomaxillofacial trauma Moderator: Asst. Prof. Niti Tawaranurak 1. Secondary facial deformities after trauma: A comprehensive surgical approach Prof. Abhay N Datarkar (India) 2. Customized reconstruction for facial fracture Dr. Tanasit Kangkorn (Thailand) 3. Customized implant in craniomaxillofacial trauma reconstruction Dr. Kasama Nilprapha (Thailand) 4. common pitfall in maxillofacial trauma Assoc. Prof. Palakorn Surakunprapha (Thailand)	CF10 Symposium - Craniofacial syndrome Moderator: Asst. Prof. Dr. Chirakan Charoenvicha 1. Orthodontic Intervention in Hemifacial Microsomia: Insights from Facial Growth Observation Prof. Ellen Wen-Ching Ko (Taiwan) 2. Developing medical treatments for micrognathia Prof. Peter Anderson (Australia) 3. Genetic consideration in NF-1 patients Prof. ZhiChao Wang (China) 4. Metabolic-Associated Craniosynostosis: Clinical Phenotype, Risk Stratification and a New Integrated Care Pathway Dr. Vikram Sharma (UK)	13:30-15:30 Free Paper 5: Maxillary Distraction, Orthodontics & Orthognathic Surgery Chairman: Assoc. Prof. Dr. Somchai Satravaha Co-Chairman: Clinical Prof. Nita Viwattanatipa
14:00 -15:00	S7: Microsurgery/Lymphedema Moderator: Dr. Kengkart Winaikosol 1. Overcoming Vascular Challenges in DIEP Flap Breast Reconstruction Prof. Bulent Sacak (Türkiye) 2. The Evolution of Omental Flaps in Lymphedema: Clinical Milestones and Lessons Learned Dr. Chakrit Eaimkijarn 3. Evolution of Lymphedema Management in Singapore: An Algorithmic Approach to Mild and Advanced Disease Dr. Jeremy Sun (Singapore)	S8: AI/Innovation Moderator: Dr. Egaboot Lewchalermwongse 1. CAD-CAM Midfacial Reconstruction and Simplified Intraoral Defect Repair Dr. Hardeep Singh (India) 2. The Role of AI in Advancing Preoperative Planning Surgery Dr. Pang-Yun Chou (Taiwan) 3. Surgeon-in-the-Loop AI in Plastic Surgery: Seeing Better, Planning Better, Training Better Dr. Sarut Chaisrisawadisuk				
15.00-15.30	Coffee Break & e-posters & Exhibition					
15.30-17.00	S9: Face Moderator: Dr. Warangkana Tonaree 1. Optimizing Results in Endoscopic Browlift Dr. Jatuporn Suesat 2. Endoscopic Deep Plane Facelift: Worth the Hype? Dr. Sorawuth Chu-ongsakul 3. Modern Facelift: 10 Keys to Natural and Long-Lasting Results Dr. Thananchai Atsadamongkhon	S10: Body Contouring Moderator: Dr. Nutton Boochangkool 1. Body Contouring; A Belt Lipectomy Dr. Pornthep Pungasmi 2. Rib Remodeling: Expanding the Boundaries of Body Contouring— Perspectives, Principles and Considerations Dr. Wachalern Chungsiriwattana 3. Beyond Fat Removal: Dynamic Natural Definition in Modern Liposuction with Fat Grafting Dr. Apirut Hongsuwan	15:30 - 17:00	CF11 Symposium - Craniosynostosis Moderators: Dr.Sarut Chaisrisawadisuk 1. Developing Adjuvant treatments for Syndromic Craniosynostosis Prof. Peter Anderson (Australia) 2. Improving outcomes in Sagittal Synostosis Prof. Mark Moore (Australia) 3. Posterior Vault Distraction in Syndromic Craniosynostosis: Lessons from Clinical Practice Dr. Chutima Jirapinyo (Thailand) 4. Preservation Cranioplasty: New Paradigm in Craniosynostosis management Prof. Jong Woo Choi (South Korea)	CF12 Symposium - Psychosocial and multidisciplinary Moderator: Prof. Dr. Benjamas Prathanee 1. Psychological Management and Life Skill Development in Children with Cleft and Craniofacial Deformities Prof. Bowornslip Chowchuen (Thailand) 2. Beyond the Procedure: Psychological Perspectives on Treatment Expectations and Outcomes Prof. Martin Persson (Sweden) 3. Nursing Roles in Psychosocial Care for Patients with Cleft Lip and Palate and Their Families Mrs.Yupin Paggasang (Thailand) 4. Family Experiences in Caring for a Child with Cleft Lip and Palate Mrs.Dussanee Jiratpikalpong (Thailand)	15:30-17:00 Free Paper 6: Fronto-Orbital & Complex Craniofacial Skeletal Surgery Chairman: Pang-Yun Chou Co-Chairman: Dr. Sarayuth Dumrongwongsiri
			17:00 - 17:30	-	Plenary Lecture Digital Orthodontics in Cleft Lip and Palate Management: Innovations, Challenges and Future Directions Prof. Dr. Puneet Batra (India) Moderator: Asst.Prof.Buddhathida Wangsimongkol	-
18:00 - 22:00	Congress Dinner, Thai Night (Vibhavadee Ballroom A+B+C)					
**The sessions, Annual Meeting of Thai Society of Plastic Reconstructive Surgery (ThPRS) and The Society of Aesthetic Plastic Surgeons of Thailand (ThSAPS) (Vibhavadee A,B) are restricted to board-certified plastic surgeons						

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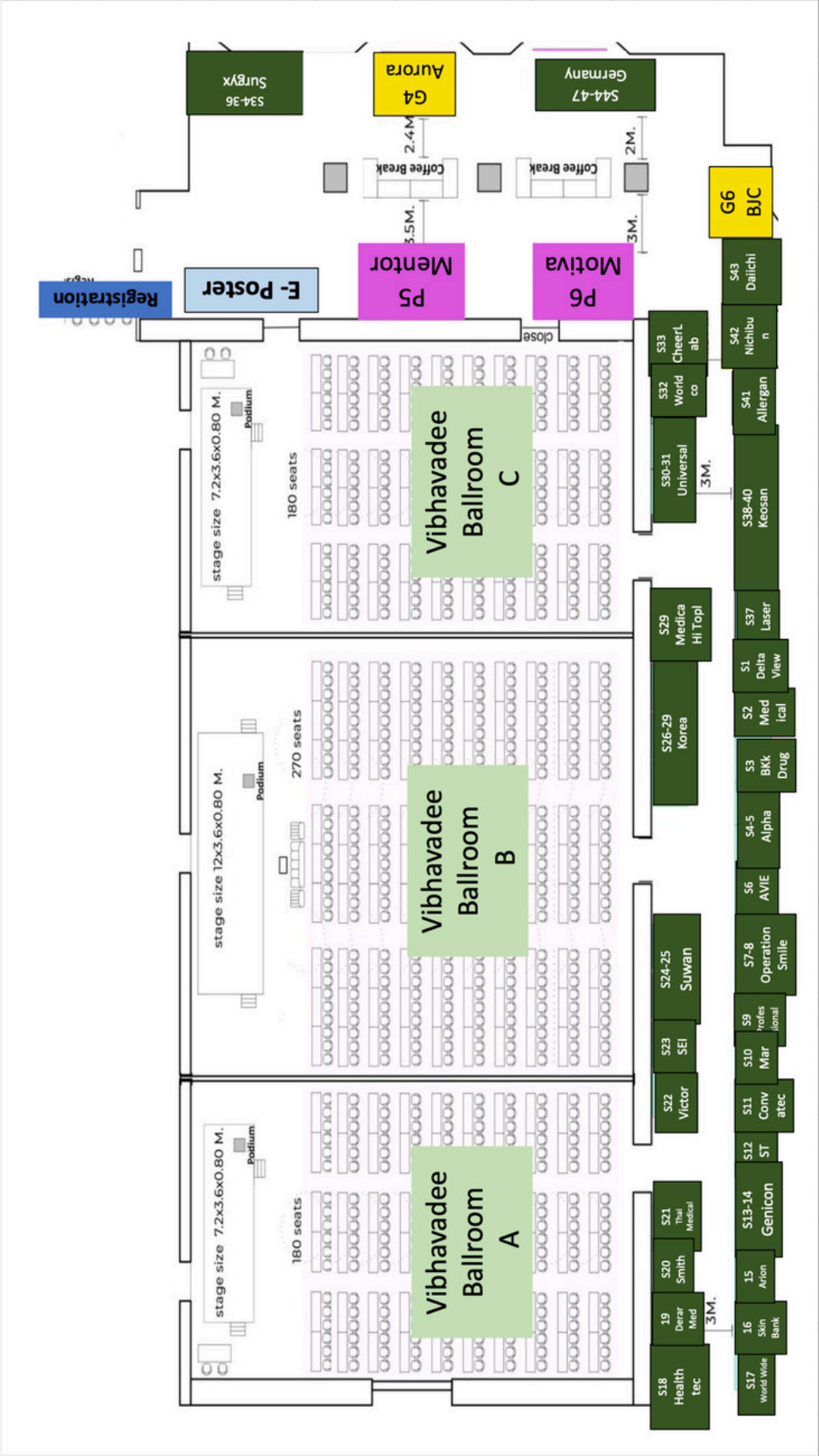
SCIENTIFIC PROGRAM

30 OCTOBER 2026

Annual Meeting ThPRS & ThSAPS			Asian Pacific Craniofacial Congress 2026			Free Paper
Venue	Vibhavadee Ballroom A	Vibhavadee Ballroom B	Venue	Vibhavadee Ballroom C	Krungthep 2	Krungthep 4
8:30 - 9:15	Plenary Lecture 4: Asian Rhinoplasty 2026: Modern Concepts, Structural Strategies, and Emerging Trends Prof. Jong Woo Choi (South Korea) Moderator: Dr. Kidakorn Kiranantawat		8:30 - 9:00	Keynote Lecture - Nursing care The Evolution of Nursing Care for Patients with Cleft Lip and Palate in Thailand: Past, Present, and Future Mrs. Suteera Pradubwong Moderator: Prof. Bowornsilp Chowchuen	Keynote Lecture - Nursing care (Live Streaming)	Keynote Lecture - Nursing care (Live Streaming)
9:15 - 10:15	S11: Eyelid Moderator: Dr. Chirakan Charoenvicha 1. Upper Blepharoplasty in Naturally Uneven Eyes Dr. Nattadon Wongprakob 2. Achieving Symmetry in Upper Eyelid Surgery: Concurrent Unilateral Ptosis Correction Dr. Hyun Ho Han (South Korea) 3. Lower Eyelid Rejuvenation: Surgical Strategy and Long-Term Outcomes Dr. Oumyos Rattanamahattana	S12: Hair (Thai language) Moderator: Dr. Pornthep Pungrasmi 1. Hairline Design: Achieving Natural Outcomes for Male Patients Dr. Suparek Laohapitakworn 2. Roles of hair transplantation in scar corrections Dr. Kulakarn Amonpattana 3. Hyperbaric Oxygen Therapy (HBOT) with relation to Hair Restoration Dr. Wongwarit Boonsiripiyachok	9:00 - 10:30	CF13 Symposium - Cranioplasty Moderators: Prof. Nond Rojvachiranonda 1. Cranioplasty Dr. Xenia Doorenbosch (Australia) 2. Spring Ahead - Expanding the Role of Spring Cranioplasty for Craniosynostosis Assoc. Prof. Christopher Runyan (USA) 3. Management of Craniosynostosis: Insights from the Chulalongkorn Cohort Prof. Nond Rojvachiranonda (Thailand) 4. Changing the trajectory of outcomes in extreme cranio-orbit-faciostenosis/ Cloverleaf skull deformity Prof. Mark Moore (Australia)	CF14 Symposium - Speech management Moderator: Mr. Natthasart Unasri / Dr. Wansiya Kamonsitchai VPI speech management (Case discussion) 1. Macamen Pamplona (Mexico) 2. Benjamas Prathanee (Thailand) 3. Bressmann T (Canada) 4. Suraj Subramaniam (India)	09:00-10:30 Free Paper 2: Mandibular & Facial Contouring, Airway Surgery & Safety Chairman: Prof. Lun-Jou Lo Co-Chairman: Dr. Chutima Jirapinyo
10:15-10:45	Coffee Break & e-posters & Exhibition		10:30-11:00	Coffee Break & e-posters & Exhibition		
10:45- 12:00	S13: Lower Limb Moderator: Dr. Warangkana Tonaree 1. Minimizing Donor Area Morbidity of Anterolateral Thigh Flap Dr. Hardeep Singh (India) 2. A Personal Strategy for Durable Coverage and Dead-Space Obliteration in Recurrent Lower-Extremity Osteomyelitis Dr. Sik Namgoong (South Korea) 3. Tailored Reconstruction Strategies for Challenging Diabetic Foot Ulcers: A Microsurgeon's Perspective Dr. Changsik John Pak (South Korea)	S14: Head & Neck Moderator: Dr. Seree lamphongsai 1. Templatized Free Flap for Tongue Reconstruction Dr. Thiti Tantitham 2. Modern Head and Neck Reconstruction: Integrating Function, Technology, and Precision Prof. Jong Woo Choi (South Korea) 3. Microvascular Reconstruction of Composite Cranial Defects Prof. Mehmet Bayramci (Türkiye)	11:00-12:30	CF15 Symposium - Orthognathic Surgery Moderator: Assist. Prof. Dr. Boworn Klongnoi 1. Orthognathic surgery for patients with cleft: State of the art Prof. Lum-Jou Lo (Taiwan) 2. Novel osteotomy technique for correction of lower facial asymmetry Prof. Abhay N Datar (India) 3. Airway Considerations for Cleft Orthognathic Surgery Asso. Prof. Clement Lin (Taiwan) 4. Designed for Complexity: PSIs in Orthognathic Surgery for Cleft and Craniofacial Syndromes Asst. Prof. Sukkam Themkumkun (Thailand)	CF16 Symposium - Nursing care Moderator: Suteera Pradubwong Best Practices and Outcomes in Nursing Care for Cleft and Craniofacial Patients: A Continuum of Care Approach (Panel Discussion) 1. Pornpun Dasri (Thailand) 2. Yupin Paggasang (Thailand) 3. Watcharaporn Sithikamtiub (Thailand) 4. Thita Pitimahajanaka (Thailand) 5. Artiteeya Dangsomboon (Thailand)	11:00-12:30 Free Paper 8: Microsurgery, Flaps & Complex Reconstruction Chairman: Assoc. Prof. Kidakorn Kiranantawat
12:00-12:45	Support Sym5: (Supported by Allergan) Beyond the Upper Face: Evidence-Based Toxin Treatment for Masseter and Platysma Dr. Marisa Pongpruthipjan	Support Sym6: (Supported by AME) Modern Body Contouring: From Skin and Fat to Ligament and Bone Dr. Jerry Chidester (USA) Moderator: Dr. Sorawuth Chuongsakul				
12:45-13:30	Lunch & e-posters & Exhibition		12:30-13:30	Lunch & e-posters & Exhibition		
13:30-14:30	S15: Hand (Trauma/Congenital) Moderator: Dr. Opart Pinchai 1. Polydactyly Dr. Saichol Wongtrakul 2. Pollicization: Surgical Technique Dr. Papat Griswadpong 3. Thinking Beyond Wound Closure: Lessons Learned Through My Experience in Hand Reconstruction Dr. Kasem Puwiwattanakura	S16: Breast Reconstruction Moderator: Dr. Pattama Punyavong 1. Optimizing the DIEP Flap and an Alternative-Flap Algorithm for the Low-BMI Asian Breast Dr. Sik Namgoong (South Korea) 2. Evolution of ADM Application in Implant Based Breast Reconstruction Dr. Florence Bommie Seo (South Korea) 3. Hybrid DIEP with Implant Breast Reconstruction: Univariate Analyses of Risk Factors Associated with Flap Failure. Dr. Suphalerk Lohasammakul	13:30-14:30	CF17 Symposium - Airway/Speech Moderator: Dr. Sarayuth Dumrongwongsiri 1. VPI Scope : Guided Direct Speech Assessment and Management Assoc. Prof. Nuntigar Sonsuwan (Thailand) 2. Surgery for Velopharyngeal Incompetence in the Cleft population Prof. Mark Moore (Australia) 3. Balancing Airway, Aesthetic, and Speech in Cleft Orthognathic Surgery Asso. Prof. Clement Lin (Taiwan)	CF18 Symposium: Distraction Osteogenesis Moderator: Asst. Prof. Saran Worasakwutiphong 1. Anterior Maxillary distraction in Cleft Hypoplastic Maxilla Prof. Abhay N Datar (India) 2. Segmental Lefort III Distraction Osteogenesis Assoc. Prof. Christopher Runyan (USA) 3. Distraction Osteogenesis in Craniosynostosis Dr. Ikkei Tamada (Japan)	
14:30-15:30	S17: Nose 2 (Thai language) Moderator: Dr. Atikom Tanadpojanamart 1. Anatomical Contouring in Asian Rhinoplasty Dr. Weerakarn Satitniramai 2. Crural Tensioning Concept in Asian Rhinoplasty Dr. Wasan Janetanakul 3. Secondary Rhinoplasty Dr. Peerasak Chortrakarnkij	S18: Breast Aesthetic 2 Moderator: Dr. Wananya Phochai 1. How to Prevent Lateralization in Augmentation Mammoplasty Dr. Nuttorn Boochangkool 2. Biofilm, Implants, and Beyond: The Future of Capsular Contracture Management Dr. Chatchai Pruksapong 3. Mastopexy: Customized the methods Dr. Peera Tianpaitoon	14:30-15:30	CF19 Symposium: Obstructive Sleep Apnea Moderator: Assoc. Prof. Dr. Poonsak Pisek 1. Surgical Treatment for Obstructive Sleep Apnea: From a Perspective of Craniofacial Development Asso. Prof. Clement Lin (Taiwan) 2. Surgical-orthodontic management of obstructive sleep apnea in patients with craniofacial anomalies Asso. Prof. Supakit Peanchitertkajorn (Thailand) 3. OGS for sleep apnea Assist. Prof. Dr. Boworn Klongnoi (Thailand)		
15:30 -16:00		Closing Ceremony (ThPRS/ThSAPS)	15:30 -16:00	Closing Ceremony (APCA/APCLPC/TCCA)		

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FLOOR PLAN

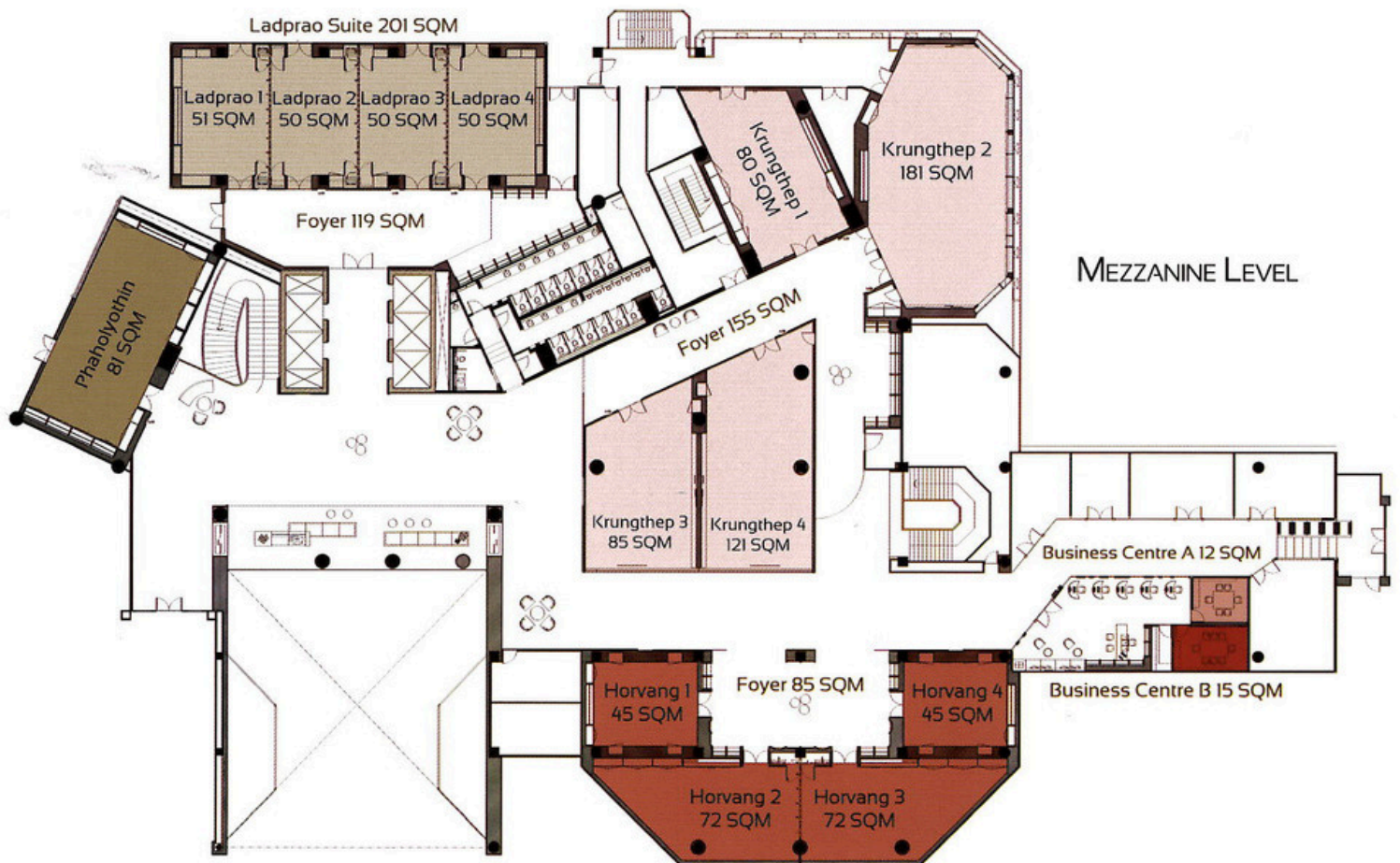


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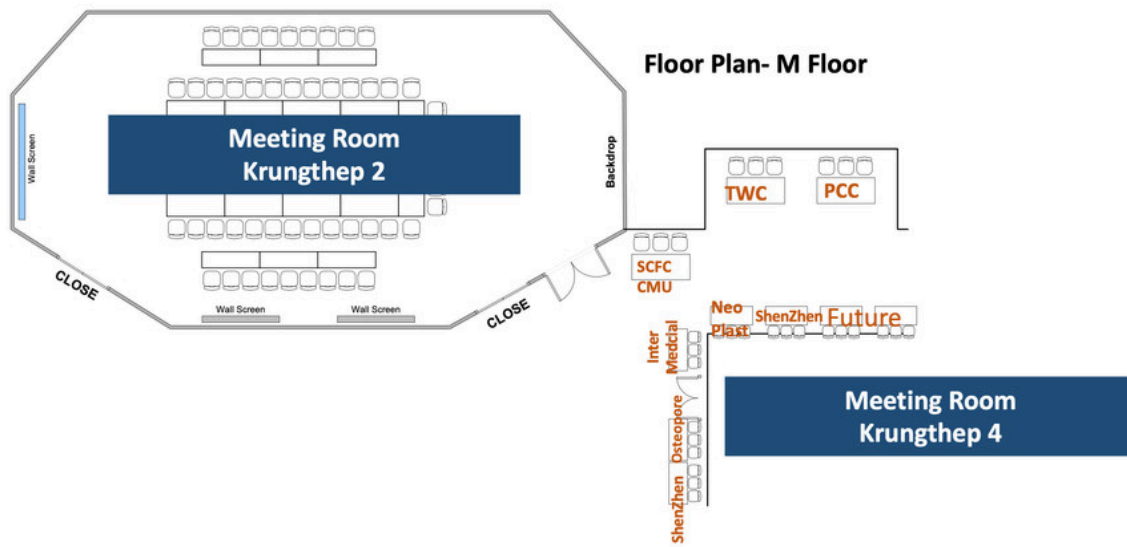
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CENTARA GRAND

AT CENTRAL PLAZA
LADPRAO BANGKOK



BOOTH EXHIBITION FLOOR PLAN



1. PCC (PATTANALAK CRANIOFACIAL CENTER)
2. TWC (TAWANCHAI CENTER, KHON KAEN UNIVERSITY)
3. SCFC (PRINCESS SIRINDHORN IT FOUNDATION CRANIOFACIAL CENTER, CHIANG MAI UNIVERSITY)
4. NEOPLASTOMER CO., LTD.
5. SHENZHEN
6. FUTURE MEDICAL SUPPLY CO., LTD.
7. INTERMEDICAL CO., LTD.
8. OSTEOPORE INTERNATIONAL PTE., LTD.

KEYNOTE SPEAKERS



LUN-JOU LO
TAIWAN



ELLEN WEN-CHING KO
TAIWAN



TIM BRESSMANN
CANADA



SUTEERA PRADUBWONG
THAILAND

LUN-JOU LO



Dr. Lun-Jou Lo is a Professor of Plastic & Reconstructive Surgery at Chang Gung Memorial Hospital in Taoyuan, Taiwan. He graduated from the Medical College of National Taiwan University and completed his plastic surgery training at Chang Gung Memorial Hospital. Dr. Lo received fellowship training at Washington University Medical Center in St. Louis, Missouri, USA.

He is an expert in plastic surgery, cleft lip and palate surgery, craniomaxillofacial surgery, orthognathic surgery, facial bone contouring surgery, cosmetic surgery, 3D medical imaging, virtual surgery planning, and 3D printing. He serves as Editor-in-Chief of the Biomedical Journal and Associate Editor of Plastic & Reconstructive Surgery.

Dr. Lo has been a visiting professor, delivered keynote speeches, and received numerous honors from hospitals and professional societies. He is a past president of the Asian Pacific Craniofacial Association (APCA) and the Asian Pacific Cleft Lip Palate and Craniofacial Association (APCLPC). He has been recognized as one of the world's top 2% of scientists for the consecutive past five years by Stanford University. Dr. Lo has published more than 350 peer-reviewed articles in his field.

ELLEN WEN-CHING KO



Dr. Ellen Wen-Ching Ko has devoted over three decades to Chang Gung Memorial Hospital, where she has served since 1991. She received her DDS degree from Taipei Medical University in 1991 and completed her Master degree from the University of Illinois at Chicago in 1999. Dr. Ko is an orthodontist in the Department of Craniofacial Orthodontics and the Craniofacial Center at Chang Gung Memorial Hospital.

Currently, Dr. Ko serves as Professor at the Graduate Institute of Dental and Craniofacial Science, Chang Gung University, and as Director of the Craniofacial Research Center, Chang Gung Memorial Hospital. In public and professional service, she is Vice President of the Taiwan Association of Orthodontists, Editor-in-Chief of the Taiwanese Journal of Orthodontics, Chairman of the Board of the Noordhoff Craniofacial Foundation.

Ko's professional interests include surgical orthodontics, craniofacial anomalies, and craniofacial orthodontics. She has served as principal investigator for more than 20 research grants supported by the Ministry of Science and Technology and the Chang Gung Medical Foundation. Her scholarly contributions include over 120 peer-reviewed scientific publications and more than 180 national and international presentations.

TIM BRESSMANN



Tim Bressmann is an Associate Professor in the Department of Speech-Language Pathology at the University of Toronto.

His research interests are in the areas of structurally related speech and voice disorders. A main focus of his research is on the use of nasometry to assess nasality and oral-nasal balance disorders in children with cleft palate.

SUTEERA PRADUBWONG



Address: Tawanchai Cleft Center and Khon Kaen University,
Khon Kaen, Thailand

EDUCATION

- 1987-1990 -BSN. (Bachelor of Science in Nursing) Faculty of Nursing, Khon Kaen University, Thailand
- 2003-05 MSN. (Administration of Nursing), Faculty of Nursing, Khon Kaen University, Thailand

PRESENT APPOINTMENT

- 1990-2008 - Nurse, Srinagarind Hospital, Faculty of Medicine, Khon Kaen University, Thailand.
- 2007-present - Nurse Specialist and Nurse Coordinator of patients with Cleft lip and palate
- Deputy Secretary-General, The Thai Cleft Lip and Palate Craniofacial Association
- Board Member, The Tawanchai Foundation for Cleft Lip and Palate and Craniofacial Patients

INTERESTING FIELD

- Cleft lip-palate and Craniofacial Deformities
- QOL
- Research

INTERNATIONAL SPEAKERS



ABHAY N DATARKAR
INDIA



BAEK KYU KIM
SOUTH KOREA



BULENT SACAĞ
TÜRKİYE



CHANGSIK JOHN PAK
SOUTH KOREA



CHEW KHONG YIK
SINGAPORE



CHRISTOPHER RUNYAN
USA



CLEMENT CH LIN
TAIWAN



ELLEN WEN-CHING KO
TAIWAN



FLORENCE BOMMIE SEO
SOUTH KOREA

INTERNATIONAL SPEAKERS



HARDEEP SINGH
INDIA



HYUN HO HAN
SOUTH KOREA



IKKEI TAMADA
JAPAN



JAE HYUN BAE
SOUTH KOREA



JERRY CHIDESTER
USA



JEREMY SUN
SINGAPORE



JOHANNA RADEKE
GERMANY



JONG WOO CHOI
SOUTH KOREA



LUN-JOU LO
TAIWAN

INTERNATIONAL SPEAKERS



MARK MOORE
AUSTRALIA



MARTIN PERSSON
SWEDEN



MEHMET BAYRAMICLI
TÜRKİYE



OH-TAE SUK
SOUTH KOREA



PANG-YUN CHOU
TAIWAN



PETER ANDERSON
AUSTRALIA



PHẠM NHƯ HẢI
VIETNAM



PUNEET BATRA
INDIA



SARVRAJ SINGH KOHLI
INDIA

INTERNATIONAL SPEAKERS



SIK NAMGOONG
SOUTH KOREA



SUBRAMANIYAN SURAJ
INDIA



TAE JOO AHN
SOUTH KOREA



TEUKU ADIFITRIAN
INDONESIA



TIM BRESSMANN
CANADA



TING-CHEN LU
TAIWAN



VIKRAM PANDIT
INDIA



VIKRAM SHARMA
UK



WOUTER VAN DE POT
NETHERLANDS

INTERNATIONAL SPEAKERS



XENIA DOORENBOSCH
AUSTRALIA



YEN-CHOU CHEN
TAIWAN



ZHICHAO WANG
CHINA



MACAMEN PAMPLONA
MEXICO

THAI SPEAKERS

36th Annual Meeting of the Society of Plastic and Reconstructive Surgeons of Thailand
and the Society of Aesthetic Plastic Surgeons of Thailand



THPRS



THSAPS



ANON CHAYASADOM

TAKSIN HOSPITAL



APIRUT HONGSUWAN

VAJIRA HOSPITAL
NAVAMINDRADHIRAJ UNIVERSITY



ATIKOM TANADPOJANAMART

BHUMIBOL ADULYADEJ HOSPITAL



CHAKRIT EAIMKIJKARN

VAJIRA HOSPITAL
NAVAMINDRADHIRAJ UNIVERSITY



CHATCHAI PRUKSAPONG

PHRAMONGKUTKLAO HOSPITAL



EGABOOT LEWCHALERMWONGSE

LERDSIN HOSPITAL



JATUPORN SUESAT



KASEM PUWIWATTANANGKURA

RAMATHIBODI HOSPITAL
MAHIDOL UNIVERSITY



KAWEESEK SAOTHONGLANG

THAI SPEAKERS

36th Annual Meeting of the Society of Plastic and Reconstructive Surgeons of Thailand
and the Society of Aesthetic Plastic Surgeons of Thailand



THPRS



THSAPS



KENGGART WINAIKOSOL
SRINAGARIND HOSPITAL
KHON KAEN UNIVERSITY



KIDAKORN KIRANANTAWAT
RAMATHIBODI HOSPITAL
MAHIDOL UNIVERSITY



KULAKARN AMONPATTANA
BHI CLINIC



NATTADON WONGPRAKOB
PHRAMONGKUTKLAO HOSPITAL



NUTTORN BOOCHANGKOOL
THAMMASAT UNIVERSITY HOSPITAL



OUMYOS RATTANAMAHATTANA
SAMITIVEJ HOSPITAL



PAPAT SRISWADPONG
BANGKOK HOSPITAL



PASU PROMNIYOM
KING CHULALONGKORN MEMORIAL HOSPITAL
CHULALONGKORN UNIVERSITY



PATTAMA PUNYAVONG
SRINAGARIND HOSPITAL
KHON KAEN UNIVERSITY

THAI SPEAKERS

36th Annual Meeting of the Society of Plastic and Reconstructive Surgeons of Thailand
and the Society of Aesthetic Plastic Surgeons of Thailand



THPRS



THSAPS



PEERA TIANPAITON

PRARAM 9 HOSPITAL



PEERASAK CHORTRAKARNIJ

SIRIRAJ HOSPITAL,
MAHIDOL UNIVERSITY



PORNTHPEP PUNGRASMI

KING CHULALONGKORN MEMORIAL HOSPITAL
CHULALONGKORN UNIVERSITY



SAICHOL WONGTRAKUL

SIRIRAJ HOSPITAL
MAHIDOL UNIVERSITY



SARUT CHAISRISAWADISUK

SIRIRAJ HOSPITAL,
MAHIDOL UNIVERSITY



SIRACHAI JINDARAK

KING CHULALONGKORN MEMORIAL HOSPITAL
CHULALONGKORN UNIVERSITY



SORAWUTH CHU-ONGSAKUL

SIRIRAJ HOSPITAL,
MAHIDOL UNIVERSITY



SUPARERK LAOHAPITAKWORN

RAMATHIBODI HOSPITAL
MAHIDOL UNIVERSITY



WEERAKARN SATTNIRAMAI

MEKO HOSPITAL

THAI SPEAKERS

36th Annual Meeting of the Society of Plastic and Reconstructive Surgeons of Thailand
and the Society of Aesthetic Plastic Surgeons of Thailand



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SUPHALERK LOHASAMMAKUL

BANGKOK HOSPITAL



THANANCHAI ATSADAMONGKHON

BANGMOD AESTHETIC
HOSPITAL



THITI TANTITHAM

RAMATHIBODI HOSPITAL
MAHIDOL UNIVERSITY



TORPON VATHANA

SIRIRAJ HOSPITAL,
MAHIDOL UNIVERSITY



VICHAJ SRIMUNINNIMIT

RAMATHIBODI HOSPITAL
MAHIDOL UNIVERSITY



VISNU LOHSIRIWAT

SIRIRAJ HOSPITAL,
MAHIDOL UNIVERSITY



WANCHALERM CHUNGSIRIWATTANA

AM INTERNATIONAL
HOSPITAL



WONGWARIT BOONSIRIPIYACHOK

RUAMJAIK HOSPITAL



SATIT WANGWATCHARAKUL

THAMMASAT UNIVERSITY

THAI SPEAKERS

36th Annual Meeting of the Society of Plastic and Reconstructive Surgeons of Thailand
and the Society of Aesthetic Plastic Surgeons of Thailand



THPRS



THSAPS



MARISA PONGPRUTTHIPAN

CHULALONGKORN UNIVERSITY



KAMOL WATTANAKRAI

BANGKOK-SKIN PLASTIC
SURGERY CENTER



NITI TAWARANURAK

BANGKOK HADYAI HOSPITAL



TSZ YIN VORAVITVET

LERDSIN HOSPITAL



WASAN JANETANAKUL

CHAKRI NARUEBODINDRA
MEDICAL INSTITUTE

THAI SPEAKERS



ARTITEEYA DANGSOMBOON

KING CHULALONGKORN MEMORIAL HOSPITAL
CHULALONGKORN UNIVERSITY



BENJAMAS PRATHANEE

FACULTY OF MEDICINE
KHON KAEN UNIVERSITY



BOWORN KLONGNOI

FACULTY OF DENTISTRY
MAHIDOL UNIVERSITY



BOWORNSILP CHOWCHUEN

TAWANCHAI FOUNDATION FOR CLEFT LIP, CLEFT
PALATE AND CRANIOFACIAL DEFORMITIES



BUDDHATHIDA WANGSRIMONGKOL

SRINAGARIND HOSPITAL
KHON KAEN UNIVERSITY



CHIRAKAN CHAROENVICHA

SRINAGARIND HOSPITAL
KHON KAEN UNIVERSITY



CHUTIMA JIRAPINYO

KING CHULALONGKORN MEMORIAL HOSPITAL
CHULALONGKORN UNIVERSITY



DUSSANEE JIRATPIKALPONG

FAMILIES OF INDIVIDUALS WITH
CLEFT LIP AND PALATE



KASAMA NILPRAPHA

KING CHULALONGKORN MEMORIAL HOSPITAL
CHULALONGKORN UNIVERSITY

THAI SPEAKERS



KIATANANT BOONSIRISETH

FACULTY OF DENTISTRY
MAHIDOL UNIVERSITY



KRIT KHWANNGERN

MAHARAJ NAKORN CHIANG MAI HOSPITAL
CHIANG MAI UNIVERSITY



NATWIPA WANICHAROEN

MAHARAJ NAKORN CHIANG MAI HOSPITAL
CHIANG MAI UNIVERSITY



NITA VIWATTANATIPA

FACULTY OF DENTISTRY
MAHIDOL UNIVERSITY



NOND ROJVACHIRANONDA

KING CHULALONGKORN MEMORIAL HOSPITAL
CHULALONGKORN UNIVERSITY



NUNTIGAR SONSUWAN

MAHARAJ NAKORN CHIANG MAI HOSPITAL
CHIANG MAI UNIVERSITY



PALAKORN SURAKUNPRAPHA

SRINAGARIND HOSPITAL
KHON KAEN UNIVERSITY



PORNPUN DASRI

MAHARAJ NAKORN CHIANG MAI HOSPITAL
CHIANG MAI UNIVERSITY



RATCHAWAN TANSALARAK

FACULTY OF DENTISTRY
NARESUAN UNIVERSITY

THAI SPEAKERS



SUKKARN THEMKUMKWUN SUPAKIT PEANCHITLERTKAJORN SUTEERA PRADUBWONG

FACULTY OF DENTISTRY
MAHIDOL UNIVERSITY



FACULTY OF DENTISTRY
MAHIDOL UNIVERSITY



SRINAGARIND HOSPITAL
KHON KAEN UNIVERSITY



THANASIT KANGKORN
CHONBURI HOSPITAL



THANIT CHAROENRAT
MAHARAJ NAKORN CHIANG MAI HOSPITAL
CHIANG MAI UNIVERSITY



THITA PITIMAHAJANAKA
NARESUAN UNIVERSITY HOSPITAL
NARESUAN UNIVERSITY



TITIPAT ACHAKULVISUT
FACULTY OF ENGINEERING
MAHIDOL UNIVERSITY



WATCHARAPORN SITTHIKAMTIUB
MAHARAJ NAKORN CHIANG MAI HOSPITAL
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Comprehensive Surgical Intervention for Adult Patients with Cleft **Prof. Lun-Jou Lo**

Adult patients with cleft lip and palate frequently present with residual dentoskeletal discrepancies, secondary lip and nasal deformities, or persistent functional problems despite previous reconstruction. Comprehensive management requires coordinated assessment of facial appearance, occlusion, speech, airway, and symptomatic oronasal fistulae, together with individual priorities and treatment history. This presentation outlines a staged surgical approach developed within a longitudinal cleft care program, emphasizing improved outcomes and reduced treatment burden.

Definitive evaluation after facial growth establishes the sequence of intervention. Orthognathic surgery generally precedes final soft tissue reconstruction to provide an appropriate skeletal foundation. Contemporary planning incorporates intraoral scanning, digital occlusal setup, three-dimensional surgical simulation, and three-dimensional printing. Surgical design considers facial midlines, symmetry, airway, maxillary segment stability, and the potential need for genioplasty. Selected adjunctive procedures, including fistula closure, correction of septal deviation, and fat injection, may accompany skeletal correction.

Subsequent reconstruction addresses residual lip scars, nasal deformity, oronasal fistulae, and velopharyngeal insufficiency. Secondary cleft rhinoplasty requires careful scar release, structural assessment, and cartilage reconstruction. Septal extension grafting offers an approach to insufficient tip projection, poor tip definition, and a short nose. Illustrative cases demonstrate individualized planning for unilateral and bilateral deformities, including patients with interrupted follow-up or previous treatment outside a standardized program.

Comprehensive adult cleft surgery integrates skeletal correction with targeted functional and aesthetic reconstruction. Appropriate sequencing, multidisciplinary planning, and attention to patient concerns guide treatment toward durable rehabilitation while limiting unnecessary procedures. The goal is to minimize residual functional deficits and improve outcomes throughout the patient's life.

Bilateral Cleft Lip Repair and Avoiding Complications

Prof. Lun-Jou Lo

Bilateral cleft lip repair presents anatomical and technical challenges that can compromise lip continuity, vermilion contour, and nasal form. Asymmetric clefts require recognition of incomplete or occult defects, whereas complete bilateral clefts commonly involve a protruding premaxilla, short columella, displaced lower lateral cartilages, and tissue deficiency. This presentation reviews operative principles and strategies for preventing complications in primary repair and managing major wound dehiscence.

Clinical experience supports simultaneous bilateral lip repair with primary rhinoplasty, including correction of subtle contralateral defects. Staged lip repairs may produce unsatisfactory lip and vermilion appearance. Management of premaxillary protrusion is central to reducing closure tension and facilitating muscle reconstruction. Presurgical nasoalveolar molding provides an established approach, while adhesive lip adhesion offers an alternative when access to molding support is limited. Rapid intraoperative premaxillary molding serves as a rescue technique for selected patients with persistent protrusion. Surgical setback with vomerine osteotomy represents another option when anatomical severity requires additional correction.

Successful reconstruction depends on careful operative design, adequate internal lining, adequate undermining, and sufficient muscle dissection followed by anatomical reconstruction. Primary nasal correction addresses the displaced cartilages and deficient columellar form, with the Tajima method presented for nasal reconstruction. Additional measures include botulinum toxin injection, tension release, and postoperative immobilization.

Major dehiscence requires reassessment of nutritional status, premaxillary position, and muscle repair. Individualized reconstruction combines correction of underlying tension with restoration of lip structure. Anticipating anatomical difficulties and adapting treatment to available resources guide efforts to achieve lasting reconstruction.

Orthognathic Surgery for Patients with Cleft: State of the Art **Prog.Lun-Jou Lo**

Orthognathic surgery in patients with cleft lip and palate requires correction of malocclusion, skeletal imbalance, and facial asymmetry while considering airway, speech, and temporomandibular joint symptoms. Conventional planning based on cephalometric tracings, articulated dental casts, and model surgery provides limited representation of three-dimensional deformities. This presentation reviews contemporary digital planning and operative strategies for individualized cleft orthognathic surgery.

The digital workflow integrates photographs, cone beam computed tomography, and intraoral scans to support virtual occlusal setup and surgical simulation. Joint planning by surgeons and orthodontists evaluates facial and dental midlines, skeletal movements, segment relationships, and chin position. Clinical examples illustrate iterative modification of the maxillomandibular complex to address residual asymmetry and refine the planned facial contour. Treatment decisions include selection of single or double jaw surgery, maxilla first or mandible first sequencing, and surgery-first or orthodontics-first approaches.

Computer aided design and manufacturing translate virtual plans into intermediate and final occlusal splints, positioning guides, and printed anatomical models. Imaging also permits assessment of the inferior alveolar and mental nerves and provides additional information about mandibular ramus anatomy. Intraoperative navigation, positioning guides, and spacers during bilateral sagittal split osteotomy fixation represent adjuncts for transferring planned skeletal relationships to surgery.

Contemporary cleft orthognathic surgery combines digital diagnosis with individualized operative judgment. Preoperative three-dimensional simulation enables assessment of surgical feasibility and anticipation of technical difficulties while supporting the pursuit of a harmonious, symmetric face. Integrating virtual planning with practical transfer methods provides a framework for managing complex cleft related dentofacial deformities.

Clinical Experience and Treatment Outcomes of the Chang Gung Protocol in Orthodontic Care for Cleft Lip and Palate **Prof. Ellen Wen-Ching Ko (Taiwan)**

Comprehensive management of cleft lip and palate (CLP) requires a multidisciplinary, staged treatment approach from infancy to adulthood. Orthodontic intervention plays a critical role in optimizing maxillary arch development, correcting dentofacial deformities, and coordinating surgical procedures to achieve long-term functional and esthetic outcomes.

This presentation reviews the clinical experience and treatment outcomes of the Chang Gung protocol, emphasizing the timing, indications, and limitations of orthodontic interventions throughout craniofacial growth. Early management includes presurgical nasoalveolar molding (PNAM) to improve alveolar alignment and nasal symmetry before primary lip repair. During mixed dentition, orthodontic preparation and secondary alveolar bone grafting are essential for restoring maxillary arch continuity and supporting dental eruption.

For patients with residual maxillary hypoplasia, transverse discrepancies, or skeletal Class III malocclusion, comprehensive surgical-orthodontic treatment may be required after growth completion.

Clinical experience indicates that approximately 37.5% of adult CLP patients require surgical-orthodontic correction. Attention will be given to managing patients with inadequate or missing alveolar bone grafts through segmental Le Fort I osteotomy combined with tertiary gingivoperiosteoplasty (tGPP). Three-dimensional surgical simulation facilitates precise segment positioning, root parallelization, and alveolar defect closure. Orthodontic space closure and controlled tooth movement toward the cleft further support alveolar bone regeneration and periodontal improvement.

The Chang Gung experience highlights the importance of individualized treatment planning, interdisciplinary collaboration, and appropriate timing of intervention. Integrating orthodontic biomechanics with advanced surgical techniques can improve maxillary arch integrity, facial balance, dental occlusion, and long-term treatment outcomes in patients with CLP.

VPI and voice management: Control of nasality and assessment of oral-nasal balance disorders

Dr. Tim Bressmann (Canada)

The speech of patients with cleft palate is often characterized by velopharyngeal dysfunction and compensatory articulation errors. However, the reliable auditory-perceptual assessment of nasality and articulation disorders in children with cleft palate is a perennial problem in Speech-Language Pathology. Ideas for new approaches to facilitate auditory-perceptual analyses of oral-nasal balance and articulation disorders with information from acoustic measures are presented. While speech assessments necessarily paint a static picture of a patient's abilities, recent research has shown that some individuals' speech is characterized by considerable variability, both in terms of articulation and oral-nasal balance. While such variability adds complexity, it may also offer new perspectives for the effective management of speech disorders.

The Evolution of Nursing Care for Patients with Cleft Lip and Palate in Thailand: Past, Present, and Future

Suteera Pradubwong

Cleft lip and palate require more than surgical correction. Patients and families need continuous, multidisciplinary support from infancy through adolescence, including care for feeding, nutrition, growth and development, speech, hearing, dental health, and psychosocial well-being. This presentation explores how cleft care and nursing practice in Thailand have evolved and considers future directions.

In the past, care focused mainly on correcting the physical defect through surgery. Nursing care centered on feeding, nutrition, preoperative preparation, and postoperative care, while cleft-specific protocols and multidisciplinary coordination were limited. Families could face delayed diagnosis or referral, difficulties accessing specialized services, travel and financial barriers, and gaps in follow-up. These challenges demonstrated that surgery alone cannot meet the long-term needs of patients and families.

Today, care is increasingly comprehensive, multidisciplinary, and patient- and family-centered. The cleft nurse coordinator helps connect patients and families with healthcare teams and community resources by providing education and counseling, supporting feeding and postoperative care, coordinating appointments and referrals, and monitoring continuity of care. Home visits and collaboration with community health teams, schools, and local organizations can help identify families' circumstances and barriers. Outcomes are considered not only in terms of surgical results, but also growth, treatment continuity, quality of life, and family well-being.

Looking toward the future, cleft nursing should continue to develop connected, personalized, proactive, and lifelong care. Digital health tools—including telehealth, electronic records, and patient registries—may support consultation, follow-up, and coordination across settings. Integrating clinical information with patient- and family-reported outcomes can help tailor care to individual needs. Technology should complement, not replace, nurses. Throughout this evolution, nurses remain essential in coordinating services, advocating for patients, supporting families, and promoting better quality of life across the lifespan.

Orthodontic Considerations in the Cleft Maxilla

Prof. Sarvraj Singh Kohli (India)

Management of the cleft maxilla requires seamless interdisciplinary coordination to address complex skeletal hypoplasia, dental arch collapse, and missing dentition.

This presentation highlights key orthodontic protocols across three essential phases of treatment.

First, early interceptive growth modification using orthopedic protocols addresses midface deficiency and skeletal discrepancies during active growth, optimizing anteroposterior relationships and reducing future surgical burden.

Next, targeted pre-surgical orthodontic preparation focuses on transverse arch expansion, crossbite correction, and root divergence adjacent to the cleft site to create optimal conditions for secondary alveolar bone grafting or orthognathic surgery while establishing coordinated arch relationships.

Finally, definitive post-surgical stabilization using fixed prosthodontic prostheses is detailed. Beyond restoring aesthetics and masticatory function, fixed prosthodontic rehabilitation plays a crucial, indispensable role in maintaining transverse expansion, preserving dental arch integrity, and preventing long-term structural relapse in the compromised cleft maxilla.

Comprehensive orthodontic management, from interceptive growth modification to rigid prosthetic stabilization, is vital for achieving durable aesthetic and functional outcomes.

Integrating Digital Technology in Comprehensive Cleft Care

Prof. Sarvraj Singh Kohli (India)

Integrating digital technology into cleft care is revolutionizing orthodontic diagnosis, treatment planning, and interdisciplinary collaboration. This presentation explores the modern digital workflow designed to optimize outcomes for patients with cleft lip and palate.

Intraoral scanning eliminates the discomfort and risks of traditional impression-taking in infants and young children, providing high-precision 3D digital models for virtual arch analysis.

Cone-beam computed tomography (CBCT) enables detailed three-dimensional assessment of bone volume, cleft geography, and adjacent root morphology, facilitating precise planning for secondary alveolar bone grafting and surgical movement.

Furthermore, advanced virtual surgical planning (VSP) and computer-aided design and manufacturing (CAD/CAM) allow for customized presurgical nasoalveolar molding (NAM) appliances, surgical splints, and patient-specific fixed prosthodontic restorations.

Beyond treatment execution, digital software streamlines longitudinal tracking of maxillary growth and soft tissue changes, enhancing communication within the craniofacial team.

Adopting a fully integrated digital workflow enhances accuracy, improves patient comfort, reduces clinical chair time, and delivers predictable, stable long-term aesthetic and functional results in cleft orthodontics.

Avoiding Orthognathic Surgery: Growth Modification in Cleft Patients Using BAMP

Asst.Prof. Thanit Charoenrat (Thailand)

Background: Midface deficiency is a common sequela in patients with unilateral cleft lip and palate (UCLP), caused by intrinsic growth restriction and scar tissue from repair. Conventional facemask therapy depends heavily on patient compliance and mainly produces dental effects. Bone-anchored maxillary protraction (BAMP), using miniplates with Class III elastics, offers a skeletal alternative.

Objective: This presentation reviews how BAMP is performed in cleft patients and highlights what remains unresolved.

Content: We describe patient selection, treatment timing in relation to alveolar bone grafting. We present a practical protocol covering force levels, elastic wear, treatment duration, and retention. Clinical cases illustrate skeletal change, soft-tissue response, and the effect on the grafted alveolus. We also discuss how BAMP compares with facemask therapy and orthognathic surgery, and which patients are most likely to avoid later surgery.

Discussion: Evidence for BAMP in cleft patients remains limited. No randomized trial has addressed the optimal timing, force magnitude is not standardized, long-term outcomes are scarce, and compliance and complication data are incomplete.

Conclusion: BAMP is an option for managing maxillary retrusion in UCLP, but careful patient selection, standardized protocols, and long-term controlled studies are needed. Attendees will learn a practical clinical approach and the key limitations.

Springing Ahead - Expanding the Role of Spring Cranioplasty for Craniosynostosis

Assoc. Prof. Christopher Runyan (USA)

Craniosynostosis is traditionally treated with cranial vault remodeling (CVR) procedures, large surgeries requiring broad exposure, blood transfusions and lengthy hospital recoveries. Recent studies examining subjective and objective long-term outcomes demonstrate poor aesthetic results and need for revisionary surgeries that increase with patient age, likely due to negative impacts of CVR procedures on cranial growth. Preservation cranioplasty approaches maintain cranial bone flap vascularity, preserving long term growth potential, and in our experience provide better aesthetic outcomes with less need for revisionary surgeries. These include suturectomy operations with post-operative orthotic helmet therapy, or dynamic cranial expansion with springs. I will share data examining our long-term outcomes for spring cranioplasty for sagittal synostosis, and demonstrate application and early results of springs for treatment of unicoronal, bicoronal, metopic, multi-suture and pan-suture synostosis. Spring cranioplasty operations have become our treatment of choice as a primary intervention for all forms of syndromic- and non-syndromic craniosynostosis.

Segmental Lefort III Distraction Osteogenesis

Assoc. Prof. Christopher Runyan (USA)

Upper midface retrusion is a common finding in patients with FGFR-2 (Apert, Crouzon, Pfeiffer) or FGFR-3 (Crouzon acanthosis nigricans, achondroplasia) mutations. The cause of midface retrusion is synostosis of sutures or synchondroses of the skull base, so called 'minor sutures'. Midface advancement at the Lefort III level, typically with distraction osteogenesis, is the treatment of choice for patients with severe midface retrusion. Lefort III osteotomies may be segmentalized to modify the lateral (zygomas) from the central midface. While Lefort III advancement is a powerful tool for correcting the AP relationship of the midface to the skull base, segmental techniques further allow for correction of central vertical impaction and down-slanting palpebral fissures as often occur in Apert syndrome, or hypertelorism. There is a lack of objective measures or tools to evaluate these patients for the appropriate surgical approach. This presentation will introduce these topics, as well as an open source 3D-imaging tool for performing orbitometric analysis. This is a useful tool for evaluating the relationship of the globe to the orbit, hypertelorism, and for decision making on the appropriate midface intervention.

Designed for Complexity: PSIs in Orthognathic Surgery for Cleft and Craniofacial Syndromes

Asst. Prof. Sukkarn Themkumkwun (Thailand)

Orthognathic surgery in patients with cleft-related deformities and craniofacial syndromes presents distinctive challenges, including severe skeletal asymmetry, altered temporomandibular joint anatomy and stability, soft-tissue scarring, and the need for substantial three-dimensional skeletal movements. These complexities can compromise the transfer of virtual surgical plans and the stability of conventional fixation. Patient-specific implants (PSIs), integrated with customized surgical guides, offer an individualized approach to addressing these challenges.

Drawing on the author's clinical experience, this presentation discusses the clinical rationale for PSI use and design refinements tailored to complex deformities. Clinical examples and published evidence illustrate their potential to support accurate skeletal repositioning, improve anatomical adaptation, and enhance postoperative stability. However, limited intraoperative flexibility and the potential for errors to propagate through the guided workflow remain important considerations. Backup splints and conventional fixation options therefore remain essential. PSIs provide a valuable means of translating individualized planning into surgical execution, with successful application depending on thoughtful design, sound surgical judgment, and contingency planning.

Distraction Osteogenesis in Craniosynostosis

Dr. Ikkei Tamada (Japan)

Craniosynostosis is a condition characterized by premature fusion of one or more cranial sutures, resulting in craniofacial deformities and potentially increased intracranial pressure. Surgical treatment aims to improve cranial morphology and expand intracranial volume. Various surgical techniques are available, including fronto-orbital advancement (FOA), posterior cranial vault distraction (PCVD), and strip craniectomy followed by helmet therapy. The choice of surgical procedure currently varies according to the treatment protocols of individual institutions.

Tokyo Metropolitan Children's Medical Center is located in the western suburbs of Tokyo and serves as a major pediatric referral center for the western half of the Tokyo metropolitan area. Over the 15 years since its establishment, 131 transcranial procedures for craniosynostosis have been performed at our institution. According to our treatment protocol, single-stage cranial remodeling is generally preferred for patients with single-suture craniosynostosis, whereas distraction osteogenesis is more frequently employed for patients with multisuture craniosynostosis, particularly those with syndromic craniosynostosis.

In this presentation, I will introduce our institutional treatment algorithm and surgical decision-making, with a particular focus on FOA distraction and PCVD. Through representative clinical cases, I will also share practical technical tips and potential pitfalls encountered in these procedures.

Anatomical, electrophysiological and functional characterization of the upper lip musculature in surgically rehabilitated cleft-lip patients and controls, as revealed by high-density surface EMG
Dr. Johanna Radeke (German)

Objectives: To anatomically and electrophysiologically characterize the orbicularis oris (OOS) muscle in adult cleft-lip (CL) patients after surgical fusion of the segmented upper lip in early childhood.

Methods: high-density surface EMG (HDsEMG) was recorded in 14 CL patients (mean age 22 yrs.) and 15 controls (NCL, mean age 26 yrs.) using specially designed, flexible electrode grids consisting of 256 silver-chloride contacts with 2.5 mm intercenter distances. The caudally-directed upper lip force was registered using a special transducer with intermaxillary fixation. Interference EMG signals were registered during ramp-and-hold contractions (RHC) at contraction levels between 2.5% – 20% MVC and were decomposed into single MU action potentials (MUAPs). MU endplate locations, and muscle fiber directions and lengths were extracted from the interpolated MUAP amplitude maps. MUs were anatomically classified and assigned to the distinct anatomical OOS subcomponents.

Results: We decomposed and classified 465 MUs of CL patients and 559 MUs of control subjects. Both groups showed MUs belonging to the marginal, peripheral and tangential OOS subcomponents. CL patients, however, demonstrated reduced MU activity near the upper lip scar, and their muscle fibers did usually not cross the scar significantly. Furthermore, CL patients showed higher lip force variability in the RHCs (mixed-effect model, $p < 0.001$). This finding in CL patients could statistically not be explained by their reduced MU number ($p = 0.174$).

Conclusions: Surgical fusion of the OOS in CL patients seems to result in a mechanical connection of the lip segments rather than a complete rehabilitation of MU architecture. This might be one aspect explaining their reduced motor control of the upper lip. Future studies are planned to evaluate OOS MU architecture resulting from alternative surgical techniques.

Determining Factors in the Indications for Maxillofacial Surgery in the 21st Century

Assoc. Prof. Phạm Như Hải (Vietnam)

The goal of orthodontic treatment is to achieve the highest aesthetic and functional requirements. Orthognathic surgery which is a suitable and effective treatment in some cases is indicated for severe skeletal and occlusal deformation. However, with technological advances in orthodontics actually allowing for more non-surgical treatment options in many cases, this report analyzes some of the commonly used techniques that help us to have a comprehensive overview of some popular techniques to get a proper mechanical choice for common clinical treatment situations.

Cranioplasty

Dr.Xenia Doorenbosch (Australia)

Craniosynostosis is more than a disorder of cranial morphology. Accordingly, neurosurgical assessment should extend beyond the operative intervention. Understanding the relationship between brain growth, cerebrospinal fluid (CSF) dynamics and suture biology is fundamental to accurate diagnosis and effective treatment planning with the goal of achieving durable outcomes rather than addressing cranial morphology in isolation.

The neurosurgeon's role also continues after the initial procedure, encompassing postoperative reconstruction of persistent cranial defects and long-term surveillance for recurrent intracranial restriction and neurological complications. Ultimately, effective multidisciplinary management helps guide intervention, preserve neurological function and support the developing brain.

Developing Adjuvant treatments for Syndromic Craniosynostosis. Prof. Peter Anderson (Australia)

Syndromic craniosynostosis can adversely impact on multiple aspects of craniofacial development including brain development and function, visual function and compromise airway function. Current treatment approaches in severe cases may require multiple surgical interventions to maintain neurological visual and respiratory function during infancy.

Laboratory based investigations have resulted in an improved understanding of the aberrant cellular pathways which underlie the early fusion of cranial sutures. These mechanisms have resulted in the identification of potential therapeutic interventions to block or reduce the aberrant pathways. This has best been demonstrated in Saethre-Chotzen syndrome with its underlying TWIST mutation. Laboratory studies using a murine model of the condition has confirmed in functional tissue studies what earlier cell studies had demonstrated. Similar studies are now progressing in syndromes with underlying FGFR2 and FGFR3 mutations using a different therapeutic approach.

These approaches may be useful in the future in managing infantile syndromic cases with an underlying genetic diagnosis, where there are cranial sutures still patent but would be anticipated to develop into a pansynostosis.

Developing medical treatments for micrognathia

Prof. Peter Anderson (Australia)

Abnormalities in the development of the mandible can have profound clinical consequences different conditions where the mandible is hypoplastic. This can result in challenges to maintaining airway patency and a potential threat to viability. Current surgical treatments include tracheostomy or mandibular osteotomy and distraction, both of which have their own long-term disadvantages.

Previously it has been reported that the IGF1 can impact and improve mandibular growth antenatally. In this murine study IGF1 was injected around the left TMJ, and after confirming that it resulted in increased local cell division its impact on skeletal growth was measured, which confirmed an increase in size compared to the non-operated side.

More recently, studies undertaken in parallel have implicated that the growth factor VEGF also has a specific impact on murine Mandibular growth, and specific drug targets can be used to increase mandibular length and so improve upper airway patency.

These studies suggest that post-natal pharmacological interventions could be developed to increase mandibular size and reduce the surgical burden of severely affected children.

Deep Learning-Based Cranial and Mandible Reconstruction for Low-Resource Clinical Deployment

Asst. Prof. Dr. Titipat Achakulvisut (Thailand)

Deep learning can automate patient-specific implant design, but existing methods trained on synthetic benchmark defects often fail on real clinical cases. In this talk, I will present three studies from our collaboration with Meticuly that move automated craniofacial reconstruction toward clinical deployment. First, CraNeXt is a lightweight skull reconstruction model with a ConvNeXt backbone. Trained on real in-house clinical cases, it better captures the diversity of real-world cranial defects while staying practical for low-resource settings. Second, a symmetry-aware pipeline tackles two barriers to deployment: bone artifacts that distort reconstruction, and the bilateral symmetry that standard models fail to enforce. It removes artifacts from the input skull and mirrors the healthy hemisphere as an anatomical guide. On a large clinical dataset, this improves both accuracy and implant fit. Third, InceptMan extends this work to mandible reconstruction for virtual surgical planning after cancer surgery. Paired with an automated cutting pipeline that defines resection margins, it performs comparably to manual planning.

Beyond the Procedure: Psychological Perspectives on Treatment Expectations and Outcomes

Prof. Martin Persson (Sweden)

Why do patients with similar clinical outcomes report very different levels of satisfaction? This presentation explores the psychological factors shaping body image, treatment expectations and wellbeing in aesthetic and reconstructive care. Drawing on research, it examines body image dissatisfaction as a continuum, from everyday appearance concerns to significant psychological vulnerability. Particular attention is given to the growing influence of social media, beauty filters and AI-generated appearance ideals on self-perception and expectations. The presentation highlights why technical success does not always translate into patient satisfaction and explores practical approaches to recognising psychosocial concerns, understanding patient motivations and managing expectations. Ultimately, it advocates a person-centred approach in which successful care is defined not only by physical outcomes, but also by the patient's experiences, needs and wellbeing.

Cleft Care Beyond Hospital: The "CLEFT CARE" Model by interdisciplinary Team Thita Pitimahajanaka

Background & Purpose: Cleft lip and palate (CLP) and associated craniofacial deformities require long-term, specialized interdisciplinary management. The Pattanalak Craniofacial Center serves craniofacial care, covering 10 provinces in lower northern Thailand. To overcome geographical, socio-economic, and continuum-of-care barriers faced by pediatric patients, the center implemented the "Cleft Family Tour" under the structured "CLEFT CARE" framework (Community Assessment, Linkage System, Evaluation, Family Empowerment, Team Approach / Care Plan, Access to Services, Referral & Resource Support, Empowered Outcomes). This study evaluated the feasibility, clinical scope, and satisfaction outcomes of this interdisciplinary community outreach program.

Materials & Methods: A specialized interdisciplinary team—comprising plastic surgeons, orthodontists, speech therapists, coordinating nurses, and social workers—conducted home outreach visits to families of CLP patients across lower northern Thailand. The outreach model provided comprehensive assessments encompassing speech development, dental status (dental caries), psychosocial adaptation, and household economic vulnerabilities. Integrated care networks were established with local network hospitals, Provincial and District Health Offices, Sub-District Health Promotion Hospitals, schools, and Village Health Volunteers to ensure long-term follow-up and targeted intervention.

Results: Between February 2024 and June 2026, the outreach program evaluated 24 families across six provinces (Nakhon Sawan, Phichit, Kamphaeng Phet, Phitsanulok, Tak, and Uthai Thani). Speech impairment and dental caries were identified as predominant clinical concerns. To address speech deficits, direct referrals for speech therapy were initiated alongside individualized training programs coordinated with schoolteachers. Financial hardship threatening treatment compliance was mitigated through financial assistance via the Naresuan University Hospital Foundation. Caregiver satisfaction with the home visit intervention reached 97.8%.

Conclusion: The "CLEFT CARE" model demonstrates that expanding interdisciplinary care beyond hospital settings into the community effectively addresses critical socio-economic and developmental determinants of health in CLP management. Institutionalizing integrated regional networks improves long-term clinical compliance, speech outcomes, and holistic family well-being. This model serves as a scalable outreach framework for cleft care in resource-limited and geographically dispersed regions globally.

Keyword: Cleft Lip, Cleft Palate, Interdisciplinary Team, Community Outreach, Cleft Care Model

Nursing care : Management for care in golden period of patients with Cleft Lip and Cleft Palate

Yupin Paggasang

The first five years of life are considered a critical “Golden Period” for children with cleft lip and cleft palate (CLP), as this period is essential for physical growth, feeding, speech and language development, psychosocial adjustment, and preparation for timely surgical and multidisciplinary treatment. Nurses play a vital role in providing continuous, family-centered care throughout this period.

Nursing management begins from the prenatal period and continues through early childhood, focusing on comprehensive assessment, parental education, feeding and nutritional support, preparation for surgery, postoperative care, and coordination of multidisciplinary services. Nurses provide individualized education and demonstrate appropriate feeding techniques, including the use of a spoon, cup, or syringe when necessary, particularly before and after surgery. They also monitor growth and nutritional status to ensure that children are adequately prepared for surgery. Following cheiloplasty and palatoplasty, nurses provide guidance on wound care, feeding practices, pain management, and prevention of postoperative complications. Hearing assessment, speech and language development, dental and orthodontic care, and developmental monitoring are also coordinated according to the treatment protocol.

In addition, nurses provide psychosocial support by addressing parental anxiety, strengthening caregiver confidence, encouraging family participation, and promoting adherence to long-term treatment. Close follow-up and case management help identify children at risk of delayed treatment or loss to follow-up and facilitate timely referral to the appropriate multidisciplinary team. Effective nursing management during the Golden Period requires continuity of care, family empowerment, and close multidisciplinary collaboration. Early and comprehensive nursing interventions can support optimal growth and development, improve treatment adherence, reduce complications, and contribute to better long-term quality of life for children with CLP and their families.

From Breastfeeding Challenges to Success: Best Practice in Breastfeeding for Infants with Cleft Lip and Cleft Palate at Maharaj Nakorn Chiang Mai Hospital

Pornpun Dasri

Background

Breastfeeding provides essential nutrition, immune protection, and opportunities for mother–infant bonding. However, infants with cleft lip and/or cleft palate may experience difficulties with latching, suction, milk transfer, and feeding efficiency. These challenges may result in prolonged feeding, inadequate milk intake, and maternal anxiety and lack of confidence. Variations in breastfeeding support among healthcare providers may further affect the continuity and effectiveness of care. Therefore, a systematic and individualized approach was developed to promote safe and effective breastfeeding while strengthening maternal breastfeeding skills and confidence.

Objective

To promote safe and effective breastfeeding and enhance mothers' skills in breastfeeding infants with cleft lip and/or cleft palate.

Best Practice / Intervention

A structured, individualized breastfeeding care model was implemented based on Diane L. Spatz's Ten Steps for Promoting and Protecting Breastfeeding for Vulnerable Infants. The practice included comprehensive assessment of cleft characteristics, feeding readiness, suck–swallow–breathe coordination, feeding ability, and maternal readiness and concerns. Parents were actively encouraged to breastfeed and provide breast milk whenever possible. An individualized breastfeeding plan was developed according to each infant's cleft characteristics and feeding ability, including appropriate breastfeeding positioning and direct breastfeeding support. When infants were unable to obtain sufficient milk directly from the breast, expressed breast milk was provided as supplemental feeding using appropriate methods, such as syringe or cup feeding, according to the infant's needs. Mothers were trained and supported to safely perform supplemental feeding independently before discharge.

Nursing support incorporated a Teach–Demonstrate–Practice–Feedback approach to develop maternal breastfeeding and supplemental feeding skills. Continuous monitoring included feeding effectiveness, feeding duration, signs of feeding difficulty, milk intake, weight gain, and maternal confidence. Preparation for discharge and coordinated follow-up were provided to promote continuity of breastfeeding and breast milk feeding after discharge.

Results

From 2024 to 2026, 15 infants with cleft lip and/or cleft palate received the best-practice breastfeeding care. The incidence of aspiration associated with feeding was 0%, and 100% of mothers demonstrated the ability to independently feed their infants before discharge through direct breastfeeding and appropriate supplemental feeding when needed.

Conclusion

The best-practice approach demonstrated that breastfeeding support for infants with cleft lip and/or cleft palate can be strengthened through individualized assessment, evidence-based practice, hands-on coaching, continuous monitoring, and family-centered care. Key success factors included individualized care, skilled nursing support, parent empowerment, multidisciplinary collaboration, and continuity of care, contributing to safe breastfeeding, enhanced maternal confidence, and positive infant outcomes.

Practices and Outcomes in Nursing Care for Cleft and Craniofacial Patients: A Continuum of Care Approach

Artiteeya Dangsomboon

Introduction:

Severe craniofacial abnormalities are complex conditions affecting multiple physiological systems. Beyond facial and cranial anomalies, patients often face cognitive, growth, and developmental delays, alongside significant psychosocial and economic burdens. Consequently, comprehensive management necessitates a robust multidisciplinary approach.

Objective:

This presentation highlights the crucial role of the specialized center nurse as the central coordinator within the multidisciplinary team. We aim to demonstrate how effective care coordination—bridging inpatient and outpatient settings, ensuring treatment adherence, and providing emotional support—empowers families and drives the continuous development of practical care guidelines.

Case Highlight:

We present a patient with Pfeiffer syndrome featuring severe cranial deformity, bilateral proptosis, multi-suture synostosis, and hydrocephalus, complicated by respiratory and developmental issues. Despite these profound challenges, seamless multidisciplinary coordination across hospital and home settings, coupled with strong family commitment, yielded positive outcomes. Although experiencing delayed development, the patient successfully integrates and interacts with peers under dedicated parental care.

Conclusion: The coordinator nurse is indispensable throughout the entire care continuum. By building strong therapeutic relationships, acting as the primary point of contact, and coordinating multidisciplinary efforts, the nurse ensures patients receive continuous, optimized care, ultimately leading to improved long-term clinical and psychosocial outcomes.

Enhancing Continuum of Care for Cleft Lip and Palate Patients: The Role of the Nurse Case Manager

Watcharaporn Sitthikamtiub

Background

Caring for patients with cleft lip and palate and other congenital craniofacial conditions draws on the shared expertise of a multidisciplinary team and must continue from birth to adulthood. Each stage of treatment has a “golden period” (timeline) that is hard to recover once missed. However, many patients in Northern Thailand live in remote areas and face major travel and cost barriers. These create gaps between home, community hospital and specialist center, so patients drop out of the system and miss the chance to receive treatment at the recommended age.

Objective

To present a best practice in which the Nurse Case Manager acts as the hub linking patients, families, multidisciplinary teams and health service networks, at both health-region and Northern-region levels, so that patients receive care that is comprehensive, continuous, age-appropriate and easier to access.

Best Practice

The nurse case manager connects care across four dimensions:

1. Patients: Monitor and register newborns, set an individualized care plan, and follow up and bring patients into continuous treatment through tele-nursing and telephone calls, so that surgery, speech therapy, alveolar bone grafting and orthodontic treatment happen on schedule.
2. Families: Promote family participation in care through in-depth counseling on feeding techniques, oral health care, and pre- and post-operative care, and empower caregivers through parent-network training, so that they have the knowledge, understanding and confidence to share in the patient's care.
3. Multidisciplinary teams: Organize pre-operative conferences and patient care consultations with the multidisciplinary team, so that surgeons, orthodontists, speech-language pathologists and related specialties plan treatment together. Design a one-stop service so that patients receive all-round care in a single hospital visit, and arrange capacity-building training for staff on topics suited to each discipline.
4. Networks: Build and drive a network of nurse case managers in hospitals across the 8 provinces of Health Region 1, with nurse mentors from the Center advising and supporting nursing teams in network hospitals, together with rotating surgery across the network and a clear, standardized referral system.

Data-Driven System

The ThaiCleftLink database is used together with a BI Dashboard to track each patient's treatment status and assess the overall picture by area. This helps the health team proactively and accurately identify patients who miss appointments or reach the age for the next stage of treatment. The rate of attending scheduled appointments is the key indicator, under strict personal data protection principles.

Outcomes

Patients in the network receive surgery at the appropriate age and have regular access to speech therapy and orthodontic treatment. Patients previously lost from the system are followed up and brought back into treatment. Families have a dependable single point of contact, and network hospitals work in unity on the same standards and database.

Conclusion

The nurse case manager is the “vital link” that turns fragmented services into a seamless care pathway across the life course. Investing in the nursing role and the coordination network is therefore a strategic mechanism that raises treatment outcomes, creates equity in access to health services, and offers a model that can be extended sustainably to the care of other complex chronic conditions.

Keywords

nurse case manager, continuum of care, cleft lip and palate, multidisciplinary team, health service network

Beyond the Appliance: Understanding and Preventing Complications in Nasoalveolar Molding

Assoc. Prof. Ratchawan Tansalarak

Nasoalveolar molding (NAM) plays an important role in the early management of infants with cleft lip and palate. While much attention is given to appliance design and treatment outcomes, successful NAM therapy also depends on the infant's condition, caregiver involvement, and consistent care at home. Even minor complications can affect treatment continuity and create challenges for both infants and their families.

This lecture will share clinical insights from over a decade of experience with modified NAM therapy at Pattanalak Craniofacial Center, Naresuan University, Thailand. Drawing on findings from two retrospective studies, the presentation will explore the frequency, types, and timing of NAM-related complications, as well as clinical and caregiver-related factors associated with their occurrence. In a 10-year review of 85 infants, nearly half experienced at least one complication, with skin irritation, feeding interruption, incorrect strapping, and nasal stent positioning problems being the most common. Complications were particularly frequent during the early stages of treatment. Additional findings from a caregiver-focused study highlight the potential influence of family support, caregiving arrangements, and socioeconomic factors on treatment management.

Beyond identifying complications, this lecture will discuss practical strategies for early risk assessment, caregiver training, and clinical monitoring. Particular attention will be given to recognizing vulnerable infants and supporting caregivers during the critical initial weeks of NAM therapy.

By shifting the focus from appliance-centered treatment to a more family-centered approach, clinicians can better address the challenges of NAM therapy and support safe, consistent, and effective care.

Unusual Cleft lip-nose Reconstruction

Assoc. Prof. Kiatanant Boonsiriseth

To restore the function and esthetics in cleft lip nose patients, open secondary rhinoplasty with various types of cartilagenous grafts are certainly performed. In unilateral cleft lip nose deformity, tip reconstruction with symmetrical lower third usually achieves by cleft sided lateral crural stealing. But in unusual cases of very short, adhesive, unstealable and severe caudal positioning of the cleft sided lateral crus, the lateral crural strut with reposition can solve this problem satisfactorily.

Short columella in bilateral cleft lip nose limits the nasal tip reconstruction. Fork flap integrated with marginal incision is essential for adequate soft tissue coverage at columella region, facilitating adequate esthetic nasal projection. Misconception of cleft lip nose reconstruction might result in dysfunctional as nostril stenosis and unesthetic nose. Surgical correction of these complications needs exactly more attempt and may compromise the result.

Cleft Lip Repair as Framework Surgery: Comprehensive Mobilization and Repositioning of the Nasomaxillary Complex

Professor Baek-kyu Kim

Primary cleft lip repair has traditionally focused on restoration of orbicularis oris continuity to achieve functional lip closure and symmetry. However, reconstruction of the oral sphincter alone may not provide sufficient long-term support for the cleft-side nasal base. In our experience, an initially symmetric alar base may gradually descend and widen over time, suggesting that positional correction without restoration of its underlying support may be insufficient. The cleft-side nostril base is not merely displaced laterally but is also positioned over a depressed and asymmetric skeletal foundation. Furthermore, the normal continuity between the nasal floor, periosteum, perinasal musculature, and orbicularis oris is disrupted. We therefore consider primary cleft lip repair as reconstruction of two related functional systems: restoration of the orbicularis oris for oral competence and reconstruction of the inferior supporting sling of the nasal aperture for stable alar position.

Our approach incorporates correction of the deviated caudal septum, mobilization and repositioning of the periosteomucosal layer along the inferolateral pyriform aperture, and anatomical reconstruction of the perinasal muscle complex. The muscle fibers around the junction of the orbicularis oris, levator labii superioris, and levator labii superioris alaeque nasi are identified and mobilized separately, advanced medially, and anchored to the anterior nasal spine–septal region. This creates a muscular sling beneath the nostril floor and alar base. The primary purpose of this reconstruction is suspension and stabilization of the nasal base, while advancement of the muscle and surrounding soft tissue also provides secondary volume to compensate for the underlying skeletal depression.

This framework-based approach extends the objective of cleft lip repair beyond closure of the lip and immediate nasal symmetry. By restoring the periosteal foundation, central septal anchor, and muscular sling, the technique aims to provide durable structural support to the cleft-side nostril floor and alar base and to minimize progressive postoperative descent and widening. Primary cleft lip repair should therefore address not only how the oral aperture is closed, but also how the nasal aperture is supported and maintained.

Orthognathic Surgery for Obstructive Sleep Apnea

Assist.Prof.Boworn Klognoi

Maxillomandibular advancement (MMA) is the most effective skeletal surgery for obstructive sleep apnea (OSA). Since it was first described in 1979, it has gone from a rescue operation to a standard of care. Advancing the maxilla and mandible moves the velopharyngeal and suprahyoid muscles forward. This widens the posterior airway space, brings the tongue base and soft palate forward, and increases pharyngeal wall tension. Pooled data report a surgical success rate of about 86% and a cure rate of about 43%, with low morbidity. Younger age, lower preoperative AHI and greater maxillary advancement predict success.

For the reconstructive surgeon, MMA is also a major change to the face. Large advancements can make the face look worse, especially in Asian patients with a flat nasal profile, bimaxillary protrusion and a weak chin. This presentation reviews the history and mechanism of MMA and walks through a severe OSA case treated with Le Fort I osteotomy, bilateral sagittal split osteotomy and genioplasty. The patient's AHI fell to 13.9 at three months and the facial profile became straighter. Modified techniques that protect aesthetics while still opening the airway are compared: rotational MMA and segmental-rotational MMA with anterior segmental osteotomy. Virtual surgical planning with patient-specific implants transfers large, rotation-heavy movements more accurately than splints and gives rigid fixation, although cost and lead time are still drawbacks. Done well, MMA can fix the airway and improve the face at the same time. Long-term follow-up is still needed because OSA can recur.

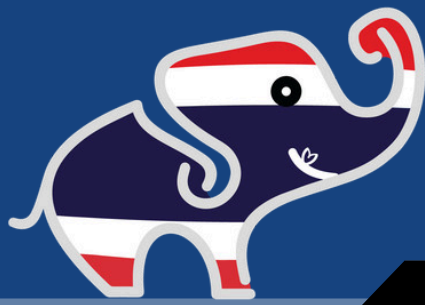
Fibula Free Flap: From Free Hand to Jaw in a Day

Assist.Prof.Boworn Klognoi

The fibula free flap is the workhorse for jaw reconstruction. Restoring the contour of the jaw is not enough, though; patients also need to chew and have teeth again. This presentation follows one unit's 15-year path from freehand reconstruction to a fully digital, prosthesis-driven "Jaw in a Day."

In the early cases, done without digital planning, the fibula was placed to copy the inferior border of the mandible. Facial contour was acceptable, but the bone was too far buccal, the vestibule was shallow and soft-tissue revisions were needed. Patients waited years for implant-supported teeth. In 2020 the unit performed Thailand's first immediate implant placement in a fibula free flap, with the fibula positioned at crestal level. In 2022 it performed Thailand's first Fibula Jaw in a Day: tumour resection, microvascular reconstruction, implant placement and an immediate fixed prosthesis in a single operation.

The in-house virtual surgical planning workflow is presented: margin verification, prosthesis-driven implant planning, fibula alignment, plate bending on printed models, and cutting-guide design. Each version from 2022 to 2026 added refinements: customised plates, digital implant guides, stackable guides and double-bar plates. Together these reduced segment malalignment, screw-hole mismatch and prosthesis tilt, while keeping good to excellent facial contour. Key lessons: use virtual surgical planning whenever feasible, position the fibula for occlusion and the prosthesis, almost always use a reconstruction plate, and give patients their teeth back as early as possible.



APC
2026

Oral presentation

APC 2026 – Oral Presentation Schedule

2026 Asia-Pacific Joint Craniofacial Congress | October 28–30, 2026

Centara Grand at Central Plaza Ladprao, Bangkok | Room: Krungthep 4 Floor M

Date	Time	Session	No.	Presentation Title	Presenter
Wednesday 28, October 2026	10:30 – 10:40	Craniosynostosis: Diagnosis & Genetics & Cranial Surgery	1	Understanding Normocephalic Craniosynostosis: A Case-Control Study on Prevalence, Clinical Features, and Neurodevelopmental Challenges	Sirin Nittayakasetwat
Wednesday 28, October 2026	10:40 – 10:50	Craniosynostosis: Diagnosis & Genetics & Cranial Surgery	2	Mendosal Suture Patency Beyond Infancy: a Large-scale Computed Tomography Study in an Asian Cohort	Jirapat Tianrunroj
Wednesday 28, October 2026	10:50 – 11:00	Craniosynostosis: Diagnosis & Genetics & Cranial Surgery	3	Prevalence of incidental Normocephalic Craniosynostosis: findings from a large cohort study	Kuljira Matwatthanakit
Wednesday 28, October 2026	11:00 – 11:10	Craniosynostosis: Diagnosis & Genetics & Cranial Surgery	4	Premature Posterior Intraoccipital Synchondrosis (PIOS) Fusion in Lambdoid Craniosynostosis: An Under Recognised Marker of Disease Severity?	Hanaa Mughal
Wednesday 28, October 2026	11:10 – 11:20	Craniosynostosis: Diagnosis & Genetics & Cranial Surgery	5	Genotype-Guided Risk Stratification Enables Personalised Follow-up in Saethre-Chotzen Syndrome: A Cohort Study with Health-Economic Analysis	Vikram Sharma
Wednesday 28, October 2026	11:20 – 11:30	Craniosynostosis: Diagnosis & Genetics & Cranial Surgery	6	Trends and insights in non-syndromic craniosynostosis research globally: a bibliometric analysis of the Web of Science database (2005-2024)	Sheng Chen
Wednesday 28, October 2026	11:30 – 11:40	Craniosynostosis: Diagnosis & Genetics & Cranial Surgery	7	Spring-assisted Cranioplasty in Multisuture Craniosynostosis: Initial Experience from Thailand	Irin Chaikangwan
Wednesday 28, October 2026	11:40 – 11:50	Craniosynostosis: Diagnosis & Genetics & Cranial Surgery	8	Longitudinal Evaluation of Cranial Morphology and Bone Formation after Suturectomy Using Absorbable Plates for Sagittal Craniosynostosis	Daisuke Sakahara
Wednesday 28, October 2026	11:50 – 12:00	Craniosynostosis: Diagnosis & Genetics & Cranial Surgery	9	Endoscopic-Assisted Osteotomy with Absorbable Plate as Internal Attachment Point for External Spring Distraction Osteogenesis in the Treatment of Sagittal Synostosis in Infants	Weimin Shen
Wednesday 28, October 2026	12:00 – 12:10	Craniosynostosis: Diagnosis & Genetics & Cranial Surgery	10	Secondary surgical treatment for recurrence of craniosynostosis :analysis of 12 cases.	Weimin Shen
Wednesday 28, October 2026	14:00 – 14:10	Cleft Palate: Reconstruction, Speech & Multidisciplinary Care	1	The Role of the Pediatric Dentist in the Interdisciplinary Management of Patients with Cleft Lip and Palate	Sujitra Soontompakornkij
Wednesday 28, October 2026	14:10 – 14:20	Cleft Palate: Reconstruction, Speech & Multidisciplinary Care	2	Maxillofacial prosthetic rehabilitation for patients with cleft-related defects: a four-case series	Penpicha Numtongmongkol
Wednesday 28, October 2026	14:20 – 14:30	Cleft Palate: Reconstruction, Speech & Multidisciplinary Care	3	Buccal Fat Pad Variations in Cleft Surgery – a 14 year experience	Duncan Atherton
Wednesday 28, October 2026	14:30 – 14:40	Cleft Palate: Reconstruction, Speech & Multidisciplinary Care	4	The folded radial forearm flap for the reconstruction of central palatal defects: Report on 9 patients over the past 6 years	Dennis Rohner
Wednesday 28, October 2026	14:40 – 14:50	Cleft Palate: Reconstruction, Speech & Multidisciplinary Care	5	Robust Assessment Based on Unreliable Measurements: Construction and Testing of an Experimental Device for the Assessment of Oral-Nasal Balance	Yifei Chen
Wednesday 28, October 2026	14:50 – 15:00	Cleft Palate: Reconstruction, Speech & Multidisciplinary Care	6	Siriraj Cleft MDT Clinic: Audit Outcomes of Speech Correction after Combined Multidisciplinary Team Care	Chanya Sinmaroeng

Date	Time	Session	No.	Presentation Title	Presenter
Wednesday 28, October 2026	15:00 – 15:10	Cleft Palate: Reconstruction, Speech & Multidisciplinary Care	7	Cleft Care Beyond Hospital: The "CLEFT CARE" Model by Interdisciplinary Team	Thita Pitimahajanaka
Wednesday 28, October 2026	15:10 – 15:20	Cleft Palate: Reconstruction, Speech & Multidisciplinary Care	8	Beyond the Obturator: Nursing-Directed Airway Management Prevents Intubation in a Neonate with Cleft Lip and Palate: A Multidisciplinary Case Report	Budsaya Saenrom
Wednesday 28, October 2026	15:20 – 15:30	Cleft Palate: Reconstruction, Speech & Multidisciplinary Care	9	Predictive Value of the MicroNAPS Classification for Postoperative Outcomes in Infants with Robin Sequence	Liangliang Kong
Wednesday 28, October 2026	16:00 – 16:10	Microtia & Craniofacial Vascular Anomalies	1	Identification of Genetic Variants Associated with Microtia Using Next Generation Sequencing	Siti Isya Wahdini
Wednesday 28, October 2026	16:10 – 16:20	Microtia & Craniofacial Vascular Anomalies	2	Pioneering Endoscopic-Assisted Single Stage Autologous Microtia Reconstruction: A Binational Indonesia-Vietnam Surgical Innovation	Siti Isya Wahdini
Wednesday 28, October 2026	16:20 – 16:30	Microtia & Craniofacial Vascular Anomalies	3	Precision Reconstruction for Craniofacial Introsseous Venous Malformations with CAD/CAM and Patient-Specific Implants from Craniofacial Center in NTUH	Po-Cheng Huang
Wednesday 28, October 2026	16:30 – 16:40	Microtia & Craniofacial Vascular Anomalies	4	The Role of Non-Coding RNAs in Microtia: A Systematic Review of Expression Profiles and Molecular Pathways Related to Auricular Cartilage Development	Fajar Sartika Hadi
Wednesday 28, October 2026	16:40 – 16:50	Microtia & Craniofacial Vascular Anomalies	5	Application value of indocyanine green lymphography in the management of stage I/ IIA microcystic lymphatic malformation of the tongue	Tao Han
Wednesday 28, October 2026	16:50 – 17:00	Microtia & Craniofacial Vascular Anomalies	6	Management of Macrocytic Lymphatic Malformation in the Cervicofacial Region Ultrasound-Guided Iodine Tincture Cauterization Combined With Intralesional Negative Pressure	Tao Han
Thursday 29, October 2026	10:30 – 10:40	Cleft lip & Nose: Primary Care, Surgery & Outcomes	1	Early Feeding Experiences Among Malaysian Mothers of Infants with Cleft Lip and Palate	Hasherah Mohd Ibrahim
Thursday 29, October 2026	10:40 – 10:50	Cleft lip & Nose: Primary Care, Surgery & Outcomes	2	Effects of an Adapted Nipple Device on Outcomes and Surgical Readiness in Cleft Lip and/or Palate Infants: A Retrospective Cohort Study	Rateepat Rattranabrawornvat
Thursday 29, October 2026	10:50 – 11:00	Cleft lip & Nose: Primary Care, Surgery & Outcomes	3	Korat-Modified Nasoalveolar Molding Appliance With Primary Correction: Nasolabial Morphological Outcomes in Unilateral Cleft Lip and Palate Patients	Nicha Ungvijanpunya
Thursday 29, October 2026	11:00 – 11:10	Cleft lip & Nose: Primary Care, Surgery & Outcomes	4	Long-Term Outcomes of Korat Nasoalveolar Molding Combined with Primary Gingivoperiosteoplasty in Complete Unilateral Cleft Lip and Palate: A 15-Year Follow-up	Phanthep Phongphanlert
Thursday 29, October 2026	11:10 – 11:20	Cleft lip & Nose: Primary Care, Surgery & Outcomes	5	Optimising Aesthetic Outcomes in Unilateral Cleft Lip Repair: Three-Dimensional Anthropometric Analysis of the Modified Onizuka Technique	Sarut Chairisawadisuk
Thursday 29, October 2026	11:20 – 11:30	Cleft lip & Nose: Primary Care, Surgery & Outcomes	6	CLASS (Cleft Lip Aesthetic Siriraj Scale): A Simplified Postoperative Assessment Tool for Cleft Lip Repair	Boonyaporn Kotistienkul
Thursday 29, October 2026	11:30 – 11:40	Cleft lip & Nose: Primary Care, Surgery & Outcomes	7	Predicting Nasolabial Revision Surgery in Repaired UCLP Using the Asher-McDade Aesthetic Index: A Pilot Study	Fonthip Tatiyanupanwong
Thursday 29, October 2026	11:40 – 11:50	Cleft lip & Nose: Primary Care, Surgery & Outcomes	8	Establishing Nostril Symmetry in Cleft Nasal Deformity: Rim Reset and Tube Concept	Kazukei Tei

Date	Time	Session	No.	Presentation Title	Presenter
Thursday 29, October 2026	11:50 - 12:00	Cleft lip & Nose: Primary Care, Surgery & Outcomes	9	RHINOSEPTOPLASTY IN CLEFT LIP PATIENTS	Sergey Bessonov
Thursday 29, October 2026	12:00 - 12:10	Cleft lip & Nose: Primary Care, Surgery & Outcomes	10	Cleft and Noncleft Rhinoplasty on Social Media: An Evaluation of Published Outcomes on Instagram	Duncan Atherton
Thursday 29, October 2026	12:10 - 12:20	Cleft lip & Nose: Primary Care, Surgery & Outcomes	11	Harmonizing Form and Function in Facial Cleft Repair with Tissue Expansion-Assisted Cheek Flap and Premaxillary Setback: A Case Report	Fajar Sartika Hadi
Thursday 29, October 2026	12:20 - 12:30	Cleft lip & Nose: Primary Care, Surgery & Outcomes	12	Oral Health-Related Quality of Life and Associated Factors in Preschool Children with Cleft Lip and/or Palate: A Cross-Sectional Study	Jutharat Chimruang
Thursday 29, October 2026	13:30 - 13:40	Maxillary Distraction, Orthodontics & Orthognathic Surgery	1	Transforming a V-Shaped Maxillary Arch into Functional Harmony: Two-Phase Orthodontic Treatment in Bilateral Complete Cleft Lip and Palate	Thitima Sukkasem
Thursday 29, October 2026	13:40 - 13:50	Maxillary Distraction, Orthodontics & Orthognathic Surgery	2	Remote Online Rating of the GOSLON Yardstick Using Digital Models Compared to Onsite Rating	Ploy Busagornruangrat
Thursday 29, October 2026	13:50 - 14:00	Maxillary Distraction, Orthodontics & Orthognathic Surgery	3	Customized Guided Maxillary Distraction for Severe Cleft Hypoplasia: Bridge to Orthognathic Surgery	Prow Janjarussakul
Thursday 29, October 2026	14:00 - 14:10	Maxillary Distraction, Orthodontics & Orthognathic Surgery	4	Three-Dimensional Virtual Surgical Planning-Guided Maxillary Distraction Osteogenesis with Patient-Specific CAD/CAM Surgical Guides: A Case Report	Kannika Rungsaeng
Thursday 29, October 2026	14:10 - 14:20	Maxillary Distraction, Orthodontics & Orthognathic Surgery	5	Interdisciplinary Orthodontic-Surgical Management of Severe Skeletal Class III in Unilateral Complete Cleft Lip and Palate Using Intraoral Maxillary Distraction Osteogenesis and BSSRO: A Case report	Nattapong Khamcha
Thursday 29, October 2026	14:20 - 14:30	Maxillary Distraction, Orthodontics & Orthognathic Surgery	6	Combined Intraoral Distraction Osteogenesis and Bilateral Sagittal Split Osteotomy Treatment in Cleft Lip and Palate: A Case Report	Jarintorn Kotheeranurak
Thursday 29, October 2026	14:30 - 14:40	Maxillary Distraction, Orthodontics & Orthognathic Surgery	7	Treatment of Maxillary Retrusion via Lefort I Osteotomy Combined with Distraction Osteogenesis in Patients with Cleft Lip and Palate	Liangliang Kong
Thursday 29, October 2026	14:40 - 14:50	Maxillary Distraction, Orthodontics & Orthognathic Surgery	8	Stepwise Skeletal Correction in Hemifacial Microsomia: From Distraction to Guided Orthognathic Surgery	Natcha Vachiradecha
Thursday 29, October 2026	14:50 - 15:00	Maxillary Distraction, Orthodontics & Orthognathic Surgery	9	Bimaxillary Osteotomy for Facial Asymmetry Associated with Presumed Infantile Hemangioma	Ryosuke Watanabe
Thursday 29, October 2026	15:00 - 15:10	Maxillary Distraction, Orthodontics & Orthognathic Surgery	10	Two-Stages Mandibular Symmetry Enhancement Following BSSRO: A CBCT Analysis of 60 Consecutive Patients with Asymmetric Prognathism	Yuanyuan Gu
Thursday 29, October 2026	15:10 - 15:20	Maxillary Distraction, Orthodontics & Orthognathic Surgery	11	Condylar-Ramus Index Predicts Postoperative Condylar Stability in Mandibular Setback Surgery: A 3D Morphometric Analysis	Yunqiao Liu
Thursday 29, October 2026	15:20 - 15:30	Maxillary Distraction, Orthodontics & Orthognathic Surgery	12	Comparative Skeletal Stability of Surgery-First Versus Conventional Orthognathics-First Approaches in Skeletal Class III Malocclusion: A Systematic Review and Meta-Analysis	Junru Li

Date	Time	Session	No.	Presentation Title	Presenter
Thursday 29, October 2026	15:30 – 15:40	Fronto-Orbital & Complex Craniofacial Skeletal Surgery	1	Surgical outcome of unicoronal craniosynostosis by fronto-orbital distraction osteogenesis: a case series report	Anh Quan Luong
Thursday 29, October 2026	15:40 – 15:50	Fronto-Orbital & Complex Craniofacial Skeletal Surgery	2	Fronto-Orbital Distraction for Unicoronal Craniosynostosis: A Comprehensive Surgical Workflow From Patient Selection to Vector Design	Phuong Dinh
Thursday 29, October 2026	15:50 – 16:00	Fronto-Orbital & Complex Craniofacial Skeletal Surgery	3	Beyond Perioperative Outcomes: Endoscopic-Assisted Suturectomy versus Open Fronto-Orbital Advancement for Non-Syndromic Unicoronal Craniosynostosis: A Systematic Review and Meta-Analysis of Facial Symmetry, Aesthetic, and Functional Outcomes	Indriani adhaini gusasi
Thursday 29, October 2026	16:00 – 16:10	Fronto-Orbital & Complex Craniofacial Skeletal Surgery	4	Risk Factors for Postoperative Infection Following Frontofacial Monobloc Advancement	Yoshiaki Sakamoto
Thursday 29, October 2026	16:10 – 16:20	Fronto-Orbital & Complex Craniofacial Skeletal Surgery	5	Management of Midface Hypoplasia Using Modified Le Fort III Distraction Osteogenesis: A Case Report	Natthaporn Thiankanthet
Thursday 29, October 2026	16:20 – 16:30	Fronto-Orbital & Complex Craniofacial Skeletal Surgery	6	Box Osteotomy for Tessier Clefts: Outcomes, Pitfalls and Lessons Learned	Farah Shazna Shamsuddin
Thursday 29, October 2026	16:30 – 16:40	Fronto-Orbital & Complex Craniofacial Skeletal Surgery	7	Perioperative Nursing Care for Orbital Distance Widening Syndrome Combined with Maxillofacial Developmental Deformities Treated with Bipartition Osteotomy	Ying Yang
Thursday 29, October 2026	16:40 – 16:50	Fronto-Orbital & Complex Craniofacial Skeletal Surgery	8	Computer-Assisted Surgery for Extensive Fibrous Dysplasia Involving Fronto-Orbital Area – Surgical Planning, Intraoperative Guides and Reconstruction Design	Thomas Mon-Hsian Hsieh
Thursday 29, October 2026	16:50 – 17:00	Fronto-Orbital & Complex Craniofacial Skeletal Surgery	9	Skull osteomyelitis developed on the frontal bone and subsequent reconstruction strategies	Junghyun Lee
Friday 30, October 2026	9:00 – 9:10	Mandibular & Facial Contouring, Airway Surgery & Safety	1	Clinical Efficacy of MDO Combined with CGF in Pierre-Robin Sequence: A Retrospective Comparative Study	Yi Ji
Friday 30, October 2026	9:10 – 9:20	Mandibular & Facial Contouring, Airway Surgery & Safety	2	Modified Mandibular Advancement Surgery for Facial Aesthetic Improvement and Upper Airway Functional Enhancement in Patients with Mandibular Hypoplasia: A Retrospective Case Series	Yuming Qu
Friday 30, October 2026	9:20 – 9:30	Mandibular & Facial Contouring, Airway Surgery & Safety	3	Commissuroplasty for Microstomia Associated with Agnathia: A Case Report	Kojiro Nagai
Friday 30, October 2026	9:30 – 9:40	Mandibular & Facial Contouring, Airway Surgery & Safety	4	Mandibular Angle Osteotomy via Intraoral Approach: A 15-Year Experience from a Single Plastic Surgery Center in China	Guoping Wu
Friday 30, October 2026	9:40 – 9:50	Mandibular & Facial Contouring, Airway Surgery & Safety	5	Combined Partial Coronoidectomy and Reduction Malarplasty versus Reduction Malarplasty Alone in Patients with Elongated Coronoid Processes: A Comparative Retrospective Study	Guoping Wu
Friday 30, October 2026	9:50 – 10:00	Mandibular & Facial Contouring, Airway Surgery & Safety	6	Frontal Bone Setback for Facial Feminization: Clinical Advantages and Practical guidelines	Junghyun Lee
Friday 30, October 2026	10:00 – 10:10	Mandibular & Facial Contouring, Airway Surgery & Safety	7	Intraoperative Bradycardia During Endoscopic Brow Lift: Recognition of Oculocardiac Reflex	Suphakorn Tangchirakhaphan
Friday 30, October 2026	10:10 – 10:20	Mandibular & Facial Contouring, Airway Surgery & Safety	8	A New Paradigm to Correct Hemifacial Atrophy in a Child with Parry-Romberg Syndrome using Dermofat Graft and 3D Digital Prefabricated Polymethyl Methacrylate Implant	Ardea Ramadhanti Perdanakusuma

Date	Time	Session	No.	Presentation Title	Presenter
Friday 30, October 2026	11:00 - 11:10	Microsurgery, Flaps & Complex Reconstruction	1	A Systematic Review and Meta-Analysis of Dangling Protocols for Lower Limb Free Flap Surgery	Belle Chatdokmaiprai
Friday 30, October 2026	11:10 - 11:20	Microsurgery, Flaps & Complex Reconstruction	2	Arterial-Only Versus Arterial-and-Venous Anastomosis in Distal Digital Replantation: A Systematic Review and Meta-Analysis	Albertus Andika Wongjaya
Friday 30, October 2026	11:20 - 11:30	Microsurgery, Flaps & Complex Reconstruction	3	Flap width and thickness for achieving desirable luminal diameter in pedicled anterolateral thigh flap phalloplasty: A fresh cadaveric study	Atthaphinya Surinratana
Friday 30, October 2026	11:30 - 11:40	Microsurgery, Flaps & Complex Reconstruction	4	Use of prefabricated fibula flaps for the occlusion driven reconstruction of complex maxillofacial defects: 27 years of experience	Dennis Rohner
Friday 30, October 2026	11:40 - 11:50	Microsurgery, Flaps & Complex Reconstruction	5	Tongue Morphometry for Flap Design and Template Optimization in Neo-Tongue Reconstruction: A Cadaveric Study	Thunyanun Nitadkitti
Friday 30, October 2026	11:50 - 12:00	Microsurgery, Flaps & Complex Reconstruction	6	Oral commissure and pyriform sinus reconstruction of post chemical burns	Jianbing Chen
Friday 30, October 2026	12:00 - 12:10	Microsurgery, Flaps & Complex Reconstruction	7	Two Dimensional Configuration of Nasal Columella and Vestibular Lining for Nasal Reconstruction: A Computerized Tomography-Based Anatomical Study	Akkarin Panusatid
Friday 30, October 2026	12:10 - 12:20	Microsurgery, Flaps & Complex Reconstruction	8	Clinical outcomes of pre-expanded scalp flaps combined with laser hair removal for craniofacial reconstruction: a systematic review and single-arm meta-analysis	Metaudina Chandra Pratiwi

Understanding Normocephalic Craniosynostosis: A Case-Control Study on Prevalence, Clinical Features, and Neurodevelopmental Challenges

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Purpose: This study investigates normocephalic craniosynostosis (NC), a condition characterised by the premature fusion of cranial sutures without visible cranial deformities, which may be associated with significant neurodevelopmental risks.

Methods: A case-control study was conducted involving patients aged 1 to 20 years with incidental diagnoses via CT scans. We collected comprehensive data from electronic medical records, including demographics, CT characteristics, neurological symptoms, and comorbidities.

Results: The study included 42 NC cases and 41 controls with patent cranial sutures. The average cephalic index was 81.7% in NC cases and 81.2% in controls, with no significant difference ($p = 0.44$). The mean age at scanning was similar between groups (11.7 years for NC versus 11.3 years for controls, $p = 0.29$). Notably, a marked male predominance was observed among NC cases (83.3% versus 56.1% in controls, $p = 0.01$). Additionally, a history of abnormal neurological issues was more common in the NC group (35.7%) compared to 19.5% in controls. A family history of abnormal neurodevelopment was noted in 4.8% of NC cases and was absent in controls; however, the difference was not statistically significant ($p = 0.08$).

Conclusions: These findings underscore the possible pathological implications of NC, emphasising the need for enhanced clinical vigilance and thorough monitoring. A multidisciplinary approach is crucial in evaluating and managing these patients to ensure optimal care and enhance understanding of NC, despite the absence of external cranial deformities.

Mendosal Suture Patency Beyond Infancy: a Large-scale Computed Tomography Study in an Asian Cohort

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Introduction: The mendosal suture, or accessory occipital suture, is thought to obliterate prenatally or neonatally, and its persistence is often misinterpreted as a skull fracture. Although recent studies suggest it may persist beyond infancy, its prevalence and clinical significance in Asian populations remain unclear. This study aimed to determine the prevalence and characteristics of persistent mendosal sutures in a Thai population aged ≤ 20 years.

Methods: A retrospective review of 1403 cranial computed tomography scans was conducted, with three-dimensional reconstructions evaluated by three blinded investigators. Sutures were classified as completely patent (continuous horizontal line across lambdoid sutures) or partially patent (residual suture with areas of fusion), and intra- and interrater reliability were assessed using intraclass correlation coefficients.

Results: The overall prevalence of persistent mendosal sutures was 6.4%, with partial patency (4.8%) more common than complete patency (1.6%); both were observed across all age groups. Intra- and interrater reliability was excellent. Median age differed statistically significantly among groups ($P = 0.001$): 16 years for partial patency, 8 years for complete patency, and 11 years for no suture. Cephalic index showed a small but statistically significant difference ($P = 0.048$), although all values remained within normal limits. No statistically significant associations were found with sex, family history of craniofacial anomalies, or other sutural synostoses.

Conclusion: The mendosal suture persists into adulthood in 6.4% of Thais, challenging the assumption of consistent early-infancy obliteration. Its presence across all ages, lack of association with pathology, and normal cephalic indices suggest it is a benign anatomical variant rather than a marker of disease.

Prevalence of incidental Normocephalic Craniosynostosis: findings from a large cohort study

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Introduction: Craniosynostosis involves premature fusion of cranial sutures, potentially causing craniofacial deformities and increased intracranial pressure. However, emerging evidence of normocephalic sagittal craniosynostosis challenges traditional surgical management paradigms. The study aimed to investigate the prevalence and implications of early cranial suture closure in a normal Thai population. By examining this occurrence, the authors hope to broaden the current knowledge of craniosynostosis, improve the understanding of its diverse presentations, and inform future clinical management strategies.

Methods: In a retrospective cross-sectional study (2012 – 2022) at Siriraj Hospital, a tertiary referral center in Thailand, the authors examined cranial computed tomography scans of 1364 patients aged 1 to 20 years. Three-dimensional imaging analyses were used to assess suture fusion, and demographic and clinical data were collected. Statistical methods were used to evaluate the prevalence and ensure reliability of the findings.

Results: Complete fusion was rare: coronal (1/1364; 0.07%), sagittal (19/1364; 1.39%), lambdoid (2/1364; 0.15%), and squamosal (24/1364; 1.76%). Partial fusion occurred in the sagittal (39/1364; 2.86%), squamosal (42/1364; 3.08%), coronal (22/1364; 1.61%), and lambdoid (22/1364; 1.61%) sutures. Notably, these patients exhibited normocephalic morphology, suggesting that certain instances of early suture fusion may represent normal anatomical variants rather than pathologic synostosis.

Conclusion: Normocephalic craniosynostosis involving coronal, sagittal, lambdoid, and squamosal sutures was detected within this contemporary Thai cohort. These findings underscore the need for meticulous clinical assessments to distinguish benign variants from true pathologic conditions, thereby informing more nuanced, individualized treatment strategies.

Premature Posterior Intraoccipital Synchondrosis (PIOS) Fusion in Lambdoid Craniosynostosis: An Under Recognised Marker of Disease Severity?

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Introduction: Lambdoid craniosynostosis is a rare condition that may occur in isolation or with adjacent suture fusion. Premature fusion of the posterior intraoccipital synchondroses (PIOS) is underrecognised, and its clinical significance remains unclear. This study evaluated the prevalence of PIOS fusion and its association with posterior skull morphology and clinical outcomes.

Methods: Computed tomography scans of patients with isolated or multisuture (excluding pansynostosis) lambdoid craniosynostosis treated at our institution were retrospectively reviewed. Data collected included age at imaging, pattern of suture fusion, presence of premature PIOS fusion, Chiari malformation, intracranial volume, and cranial surface area.

Results: Thirty-two patients were identified, including 16 (50%) with fused PIOS; six (38%) had a confirmed genetic syndrome. Median age at initial imaging was 11.5 months (IQR, 6–19.5). PIOS fusion was ipsilateral to the affected lambdoid suture in 15/16 (94%) cases; in one patient with concurrent sagittal synostosis, fusion was contralateral to the unilateral lambdoid synostosis.

Patients with fused PIOS more commonly had complex (Mercedes-Benz) synostosis (11/16, 69%), while the remaining five (31%) had isolated unilateral lambdoid synostosis. They also demonstrated higher rates of Chiari malformation (69% vs 19%) and were more likely to undergo surgery (88% vs 63%) than those with patent PIOS. Median head circumference (>97th centile in both groups) and cranial index (80.5 vs 81.8) were similar. Intracranial volume (1.22×10^6 vs 1.28×10^6 mm³ $p=0.5$) and cranial surface area (59,578 vs 63,129 mm² $p=0.6$) were lower in the fused PIOS group, although these differences were not statistically significant.

Conclusion: Premature PIOS fusion is a clinically relevant finding in isolated lambdoid and Mercedes-Benz craniosynostosis. Its association with more complex synostosis, increased Chiari malformation, and greater likelihood of surgery suggests it may be a marker of disease severity. Routine assessment of PIOS on imaging may improve risk stratification and inform management.

Genotype-Guided Risk Stratification Enables Personalised Follow-up in Saethre-Chotzen Syndrome: A Cohort Study with Health-Economic Analysis

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Introduction: Children with Saethre-Chotzen syndrome (SCS) routinely undergo prolonged multidisciplinary craniofacial surveillance despite substantial phenotypic variability. In our unit, all patients undergo uniform, high-intensity craniofacial assessment (CFA), costing approximately 4,000£ (5,400 USD) per episode, though many never require surgery. We hypothesised that genotype could identify a subgroup at low enough risk to justify less intensive follow-up, benefiting patients and healthcare resource utilisation.

Materials & Methods: We performed a retrospective cohort study of patients with genetically confirmed/clinically diagnosed SCS managed at our supra-regional craniofacial unit. Clinical phenotype, TWIST1 genotype, operative history, ophthalmological findings and intracranial pressure surveillance were reviewed. Associations between genotype class and surgical intervention were tested using two-sided Fisher's exact and chi-square tests, with odds ratios (OR) and 95% confidence intervals (CI) reported. Projected savings were modelled against the per-assessment CFA cost.

Results: Forty-eight patients met inclusion criteria; 27 (56%) underwent surgery and 21 (44%) remained unoperated. Operative intervention was primarily determined by clinical phenotype rather than genotype alone. Nevertheless, two recurrent TWIST1 variants, p.Arg39Trp and p.Glu126Ter, were consistently associated with a mild course: none of six carriers required surgery (Fisher's exact $p=0.004$). Conversely, all patients with frameshift variants underwent surgery, though numbers were small (3/3). Multi-suture craniosynostosis was not independently associated with surgery, indicating anatomical involvement alone is an insufficient severity marker. Genotype-guided surveillance of this low-risk subgroup, after baseline assessment, was estimated to reduce follow-up costs by approximately 23,000£ – 30,500£ (31,000–40,000 USD).

Conclusion: Genotype appears to refine clinical risk in SCS and may identify a subgroup suitable for less intensive surveillance after baseline assessment, supporting personalised follow-up while confirming phenotype remains the principal determinant of management. We propose a genotype-informed stratified monitoring pathway, potentially extendable to other craniosynostosis syndromes with a proven genetic diagnosis. These findings are already implemented in our practice, with health-economic benefit; multi-centre validation is required.

Trends and insights in non-syndromic craniosynostosis research globally: a bibliometric analysis of the Web of Science database

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Introduction: Non-syndromic craniosynostosis (NSC) carries significant neurosurgical and developmental implications, yet no comprehensive global bibliometric synthesis exists. This study aimed to analyze worldwide NSC research from 2005 to 2024, identifying publication trends, key contributors, and emerging hotspots.

Methods: A systematic search of the Web of Science Core Collection retrieved English original articles and reviews (2005 – 2024). Bibliometric analyses using VOSviewer, CiteSpace, and Bibliometrix examined co-authorship, co-citation, keyword co-occurrence, burst detection, and thematic mapping.

Results: The 768 publications showed steady growth. The USA led, with Children Hospital of Philadelphia and Yale University as top institutions. Persing JA, Bartlett SP, and Taylor JA were prominent author. The Journal of Craniofacial Surgery was the most productive journal; Plastic and Reconstructive Surgery and Scientific Reports had the highest citation impact. Hotspots included neurodevelopmental outcomes, minimally invasive surgery, genetic/epigenetic mechanisms, and metopic synostosis epidemiology.

Conclusion: This first bibliometric analysis mapping two decades of NSC research reveals collaboration networks and thematic trends, guiding future interdisciplinary studies. It emphasizes enhanced international cooperation, harmonized data registries, and translational frameworks bridging molecular discoveries to clinical care.

Spring-assisted Cranioplasty in Multisuture Craniosynostosis: Initial Experience from Thailand

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Introduction: Spring-assisted cranioplasty is a minimally invasive, dynamic technique for cranial expansion in craniosynostosis. This report describes its initial application in Thailand for posterior vault expansion in multisuture cases.

Methods: Two patients were treated: a 14-month-old boy with secondary multisuture synostosis from a VP shunt and an 11-month-old girl with Pfeiffer syndrome. Custom springs were fabricated in-house from 316 stainless steel Kirschner wire, with force ranges of 2.68 N to 4.77 N. A 1-cm wide parieto-occipital strip craniectomy was performed, and four springs were placed per patient.

Result: Significant cranial expansion was achieved. The male patient's cephalic index (CI) improved from 1.29 preoperatively to 1.05 at one year, while the female CI normalized from 1.07 to 0.91. Operative times were 100 and 190 minutes, with blood losses of 100 mL and 20 mL, respectively. Springs were removed at 7 and 10 months postoperatively without bony encasement. The first case required VP shunt revision for hydrocephalus, highlighting an important consideration in secondary synostosis. Both children showed appropriate developmental progress at follow-up.

Conclusions: This initial experience suggests that spring-assisted cranioplasty is a feasible, cost-effective alternative for posterior vault expansion in complex, multisuture craniosynostosis. It provides the benefits of an internal device, reduced operative time and blood loss, and effective cranial reshaping. Careful patient selection is essential, especially for shunt-dependent cases. The technique offers a valuable surgical option in resource-limited settings.

Longitudinal Evaluation of Cranial Morphology and Bone Formation after Suturectomy Using Absorbable Plates for Sagittal Craniosynostosis

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Purpose: At our institution, a suturectomy using absorbable plates is performed for sagittal craniosynostosis within 4 months of age. In addition to excision of the fused sagittal suture, the osteotomy is extended laterally to the squamosal suture along the parasagittal bony depression. Absorbable plates are also fixed in this area along the edges of the gap to maintain the distance. Subsequently, bone grows in to fill the space. This study aimed to longitudinally evaluate postoperative cranial morphology, intracranial volume, and bone formation after this procedure.

Patients and Methods: We retrospectively reviewed patients with sagittal craniosynostosis who underwent this procedure between 2014 and 2024 and were followed for at least 6 months postoperatively. No adjunctive therapy (such as helmet therapy) was used. Preoperative and postoperative CT images obtained from 3 months to 5 years after surgery were analyzed using Mimics software. The cephalic index, bossing angle, intracranial volume, and bone formation at the suturectomy site were evaluated. Bone formation was calculated as the percentage of the re-ossified area relative to the original bone defect.

Results:

Eight male patients were included. The mean age at surgery was 58 days, and the mean follow-up period was 36 months. At 3 months postoperatively, intracranial volume increased by a mean of 261 ml. The mean cephalic index improved from 69 preoperatively to 82.9 at 3 months and remained favorable thereafter. The mean bossing angle decreased from 116° preoperatively to 109° at 6 months. Bone continuity became evident at 6 months, and the mean re-ossified area reached 93% at 1 year. No morphological relapse or postoperative complications were observed.

Conclusion: This procedure contributes to spontaneous three-dimensional cranial expansion, aesthetic improvement, and favorable long-term bone formation without helmet therapy.

Endoscopic-Assisted Osteotomy with Absorbable Plate as Internal Attachment Point for External Spring Distraction Osteogenesis in the Treatment of Sagittal Synostosis in Infants

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Introduction: sagittal synostosis is the premature closure of sagittal sutures. To investigate the use of absorbable plates as internal attachment points for external spring traction in the treatment of sagittal craniosynostosis in infants, as well as clarify the indications and advantages of the method.

Methods: External spring was used to treat 12 infants with sagittal craniosynostosis between 3 and 6 months of age. The procedure is initiated with the endoscopic-assisted resection of the fused sagittal suture. The distraction point was fixed onto an absorbable plate, and 1-0 nylon or steel wire was used to pull out the scalp, after which the external spring was hung on the distraction. After 3 months of fixation, the nylon thread was cut, and the outer spring was removed without anesthesia. Furthermore, we compared cephalic index outcomes and infection rates in our 12 cases of sagittal synostosis treated with an internal spring versus a control group. The differences did not reach statistical significance ($P > 0.05$).

Results: 12 infants with sagittal synostosis were treated using an external spring distraction with the traction point fixed to an absorbable plate. All of the patients showed satisfactory appearances at 1-year follow-up examinations, and all of their head indices had returned to normal and the head shape was essentially corrected within 1 year.

Conclusions: The Endoscope-assisted osteotomy plus absorbable plate as the interior attachment point for external spring distraction is a better way to treat sagittal synostosis in infants. Our 36-month follow-up showed even better efficacy, however, while remaining safe and reliable. It therefore represents an excellent treatment option for sagittal suture closure in infants.

Secondary surgical treatment for recurrence of craniosynostosis analysis of 12 cases.

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Introduction: To explore the efficacy, technical key points, and perioperative management strategies for children with recurred craniosynostosis after undergoing a second surgical procedure.

Method: A retrospective analysis was conducted on the clinical data of 12 children who underwent secondary cranioplasty after recurrence of craniosynostosis and were admitted to the Burn and Plastic Surgery Department of Nanjing Medical University Affiliated Children's Hospital from January 2023 to December 2025. The data included the type of disease, the initial surgical method, the manifestations of recurrence, the secondary surgical plan, perioperative complications, and follow-up results.

Results: Among the 12 children, 7 were male and 5 were female. The age at the first surgery ranged from 4 to 12 months (median 8 months), and the age at the second surgery was from 18 to 54 months (median 26 months). The first surgical procedures included 5 cases of simple endoscopic-assisted cranial suture resection, 4 cases of frontal orbital advancement + skull remodeling, and 1 case of total cranial vault formation. The second surgeries all adopted individualized cranial bone expansion and reconstruction, with 1 case assisted by virtual surgery planning (VSP) and 1 case combined with distraction osteogenesis. The head shapes of all 12 children improved satisfactorily after the surgeries, and there were no serious complications such as intracranial infection, cerebrospinal fluid leakage, or bone flap necrosis. During the 4 to 24-month follow-up, no recurrence was observed, and there were no significant abnormalities in the postoperative neurological development.

Conclusion: Secondary surgeries for cranial sutures closure are safe and effective, but the technical difficulty is higher than the first surgeries. Cases of recurrence after simple cranial suture resection requiring reoperation are the most common, suggesting that the initial surgery should preferably adopt cranial remodeling or distraction osteogenesis to achieve more durable corrective effects.

Keywords: Craniosynostosis, Secondary surgery, treatment

The Role of the Pediatric Dentist in the Interdisciplinary Management of Patients with Cleft Lip and Palate

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Introduction: Cleft lip and palate (CLP) requires coordinated, long-term management by an interdisciplinary team from infancy through adulthood. The pedodontist plays a pivotal role in oral health care, facilitating normal craniofacial development, and preparing patients for subsequent surgical and orthodontic interventions. This presentation highlights the comprehensive contributions of the volunteer pediatric dentist for the Mobile orthodontic unit of the Thai Orthodontic Foundation of Thai Association of Orthodontists.

Materials and Methods: This presentation reviews the clinical responsibilities of the pediatric dentist within an interdisciplinary cleft team based on current clinical practice and evidence-based care. Key areas of involvement include: Presurgical infant orthopedic management using nasopalveolar molding (NAM) to improve alveolar and nasal morphology before primary lip repair. Early oral health education and individualized preventive programs, including dietary counseling, oral hygiene instruction, topical fluoride application, and fissure sealants. Early diagnosis and management of dental caries to preserve dentition and maintain arch integrity. Monitoring dental development and providing guidance for normal tooth eruption. Periodic assessment of occlusal development and early identification of developing malocclusion, with appropriate referral and coordination with the orthodontist and other team members.

Results: Comprehensive pediatric dental care contributes significantly to improved oral health, reduced caries prevalence, preservation of the primary dentition, and timely management of dental developmental problems. Early implementation of NAM enhances presurgical esthetic and functional outcomes, while continuous monitoring of dental eruption and occlusal development facilitates appropriate timing of orthodontic and surgical interventions. Effective collaboration among interdisciplinary team member and other healthcare professionals promotes optimal functional, esthetic, and psychosocial outcomes for patients with CLP.

Conclusion: Through early intervention, continuous monitoring, and close collaboration with other specialists, pediatric dentists help establish a healthy oral environment, optimize treatment sequencing, and improve long-term outcomes and quality of life for individuals with cleft lip and palate.

Maxillofacial prosthetic rehabilitation for patients with cleft-related defects: A four-case series

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Introduction: Cleft lip and palate management requires a multidisciplinary approach involving surgeons, orthodontists, pediatric dentists, maxillofacial prosthodontists, speech therapists, and nurses. Despite comprehensive care, many patients continue to experience missing dentition, resulting in functional and social problems. Maxillofacial prosthetic rehabilitation provides additional treatment options to restore oral function and esthetics, improving patients' quality of life. This case series demonstrates various prosthetic approaches for managing different types of cleft-related conditions.

Methods: Four representative patients with cleft lip and palate conditions were treated by maxillofacial prosthodontist according to their clinical presentations. Treatment included a single implant-supported crown, an overdenture for compromised dentition and arch form, a pharyngeal obturator prosthesis for an unrepaired cleft palate, and a speech aid prosthesis for velopharyngeal insufficiency following unsuccessful palatal repair.

Results: Each prosthetic approach successfully addressed the patient's specific functional and anatomical needs. Rehabilitation restored missing dentition, improved masticatory function and swallowing, reduced nasal air escape and nasal regurgitation, enhanced speech, restored oronasal separation when indicated, and improved overall oral function, patient comfort, satisfaction, and quality of life.

Conclusion: Maxillofacial prosthetic rehabilitation offers effective individualized treatment options for patients with various cleft-related conditions and should be considered an essential component of multidisciplinary cleft care.

Buccal Fat Pad Variations in Cleft Surgery: a 14 year experience

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Introduction: The buccal fat pad flap (BFPF) is a versatile vascularised pedicled flap offering a useful adjunct in cleft surgery. This paper describes the anatomical features supported by the authors cadaveric studies, as well as reporting on the introduction of the BFPF in to a single surgeon's practice and in particular its influence on fistula rates.

Materials and Methods: A single surgeon's practice over a 14 year period was audited, encompassing the introduction of the BFPF and other key markers such as cleft type, gender, cleft width and the use or not of lateral releases. The core technique was a Sommerlad style intravelar veloplasty +/- Langenbeck flaps

Results: 300 primary cleft palate repairs were performed including 186 isolated cleft palate cases. 86 UCLPs and 28 BCLPs. 61 of these palate repairs were augmented with a BFPF. The fistula rate in the BFPF group was 3.3%. The fistula rate in the non-BFPF group was 8.5%. The BFPF was also used in selected non primary, palatal surgery cases, such as non cleft fistulae from intra oral malignancies and cocaine use

Discussion: It is not the contention of this paper that the BFPF should be used routinely, rather we contend its value lies in the more difficult palatal closures. While the donor site and morbidity from its use seems minimal, long term outcomes from BFPF use have not really been examined. It is also important to recognise the importance of the surgical learning curve as there were more fistulae earlier in the series. Its role outside of primary palate surgery is also discussed

**The folded radial forearm flap for the reconstruction of central palatal defects:
Report on 9 patients over the past 6 years**

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Objectives: The closure of localised defects through and through defects in the centre of the hard palate is demanding. Defects in the hard palate show often insufficient well vascularized soft tissue. Local flap coverage is not possible. Therefore a free vascularized tissue transfer is necessary.

Materials and Methods: Between January 2020 and July 2026 we have closed a central palatal defect in 9 patients with a free vascularized folded radial forearm flap. In 6 patients the defects were due to cocaine abuse, in 1 patient due to insufficiently treated cleft lip and palate and in 2 patients due to a trauma. The radial flap was folded to have an epithelialized surface exposed to the nasal and oral cavity. The vascular pedicle was placed submucosally and guided to the neck area along the soft tissue of the palatal arch. The anastomoses were performed with the neck vessels.

Results: All 9 patients were successfully treated and the defects were closed. Even among cocaine patients, the palate has remained closed over the past 6 years. No further interventions were necessary.

Conclusion: The treatment of central palatal defects with a folded radial flap is an effective and safe treatment method.

Robust assessment based on unreliable measurements: Construction and testing of an experimental device for the assessment of oral–nasal balance

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Introduction: Nasometry is an important tool for quantifying oral–nasal balance in children with cleft palate. However, the Nasometer is expensive and not available to clinicians in resource–limited settings. Designs for alternative low–cost devices have been published, yet different devices may produce different mean scores, limiting between–device comparability and diagnostic cutoffs. Experimental “Nasophone” devices were built from readily available materials. Mean nasalance scores as well as derived relative measures (including speech tasks with nose–pinching) were compared.

Methods: The balance of eight electret microphone pairs was quantified on a test bench with multi–speaker babble stereo panoramas. Experimental nasalance measurements were made by rerecording nasal, mixed and non–nasal sentences spoken by 10 typical speakers (8 females), who produced normal speech as well as simulations of hypernasality, hyponasality and mixed nasality. Nasalance distance, ratio, and two new composite measures were calculated.

Results: Across the eight microphone pairs, the mean difference in nasalance scores for the babble panoramas was 1.18 (SD = 0.72), with 96.3% falling within 2 nasalance points. For the re–recorded sentences, the mean difference in nasalance scores between the microphone pairs was 3.75 (SD = 3.1), with 85% falling within 6 nasalance points. For the nose–pinch condition, the mean difference was 5.34 (SD = 3.3), with 80% falling within 6 nasalance points. Using a combination of the nasalance distance, ratio, and two composite measures, a linear discriminant analysis demonstrated a mean classification accuracy of 77%, based on 128 test samples from 8 speakers.

Conclusion: Different microphone pairs may return different nasalance scores. Using relative rather than mean–based nasalance measures may reduce the effect of device–specific microphone balances and support diagnostic differentiation across different devices. Further testing with clinical data is required.

Siriraj Cleft MDT Clinic: Audit Outcomes of Speech Correction after Combined Multidisciplinary Team Care

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Introduction: This study aims to describe the demographic and clinical characteristics of patients attending a hospital-based cleft multidisciplinary team (MDT) clinic and to report multidisciplinary assessment and velopharyngeal insufficiency (VPI) surgery outcomes.

Methods: A retrospective cohort study included patients with cleft lip and/or palate (CL/P) attending the Siriraj Cleft MDT Clinic between January 2024 and May 2026. Demographic, cleft classification, tympanoscopic, perceptual speech, nasoendoscopic (NAS), and orthodontic data were obtained from the institutional MDT registry. Patients undergoing VPI surgery were analyzed as a case series with pre- and postoperative nasoendoscopic findings.

Results: Fifty-seven patients (35 males and 22 females; median age 8 years (range, 1–42) were evaluated. The most common diagnosis was unilateral cleft lip and palate (50.9%), followed by bilateral cleft lip and palate (22.8%). VPI status was recorded in 52 patients, with 34 (65.4%) diagnosed with VPI. Nasoendoscopy most often revealed a coronal closure pattern (52.2%) and moderate velar mobility (89.5%). Perceptual speech evaluation identified hypernasality in 32 of 40 patients. Dental Class III malocclusion was the predominant orthodontic finding (9/11, 81.8%), and all patients with skeletal assessment had a skeletal Class III relationship (4/4, 100%). Eight patients received surgical correction for VPI (including redo-palatoplasty, intravelar veloplasty, Furlow palatoplasty, or posterior pharyngeal wall augmentation); All 8 patients (100%) demonstrated improved velopharyngeal function after surgery, although 6 (75%) had residual mild hypernasality likely due to compensatory articulation rather than surgical failure.

Conclusion: A hospital-based multidisciplinary cleft clinic enabled comprehensive multidisciplinary evaluation in a single visit. Nasoendoscopy-guided VPI surgery improved velopharyngeal function in all treated patients. These findings support the feasibility and clinical value of the MDT model for cleft care.



Cleft Care Beyond Hospital: The "CLEFT CARE" Model by Interdisciplinary Team

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Introduction: Cleft lip and palate requires specialized, long-term interdisciplinary care. To overcome geographical and socioeconomic barriers in lower northern Thailand, Pattanalak Craniofacial Center implemented the community-based "CLEFT CARE" outreach model. This study evaluated the feasibility, clinical scope, and satisfaction outcomes of this outreach program.

Materials & Methods: An interdisciplinary team comprising plastic surgeons, orthodontists, speech therapists, nurses, and social workers conducted home outreach visits across six provinces. Assessments evaluated speech development, dental caries, psychosocial adaptation, and economic vulnerabilities. Collaborative care networks were established with local healthcare facilities, schools, and health volunteers to maintain long-term follow-up.

Results: From February 2024 to June 2026, the outreach program evaluated 24 families. Speech impairment and dental caries were identified as primary clinical issues. Interventions included speech therapy referrals, teacher-assisted training programs, and financial aid via the university foundation. Overall caregiver satisfaction reached 97.8%.

Conclusion: Extending interdisciplinary cleft care into the community effectively addresses socioeconomic and developmental determinants of health, enhancing treatment compliance, speech outcomes, and family well-being in resource-limited regions.

Beyond the Obturator: Nursing-Directed Airway Management Prevents Intubation in a Neonate with Cleft Lip and Palate: A Multidisciplinary Case Report

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Introduction: Neonates with cleft lip and palate admitted to the neonatal intensive care unit (NICU) frequently develop respiratory complications requiring non-invasive ventilatory support. The oral structural defect causes loss of negative airway pressure, increasing the risk of upper airway obstruction and failure of non-invasive ventilation. Endotracheal intubation in this population is technically difficult and carries risks of airway trauma and impaired suck-swallow reflex with prolonged use. Systematic, individualized airway management is therefore critical to avoid intubation and support surgical readiness.

Methods: We report a 6-day-old female infant with cleft lip fitted with a naso-alveolar molding (NAM)/obturator device on day 3, initially feeding independently. On day 4, she developed increased work of breathing and was started on oxygen hood therapy. By day 6, respiratory distress progressed with worsening tachypnea, subcostal retraction, hypo-aeration on chest radiograph, abdominal distention, poor nasal airflow with significant desaturation at rest, prompting unplanned NICU admission and a plan for intubation. A structured airway management protocol was applied instead, comprising systematic airway assessment, optimized positioning, safe suctioning, individualized non-invasive respiratory support with complication prevention, feeding support, vital sign monitoring, and multidisciplinary coordination. Clinical deterioration was monitored using the Newborn Early Warning (NNEW) score, alongside a dedicated nursing care checklist for infants managed with Obturator/NAM devices to ensure consistent, effective care.

Results: With this structured airway management approach, the infant achieved effective spontaneous breathing, and endotracheal intubation was successfully avoided.

Conclusion: Systematic, evidence-based airway management—combining accurate assessment, positioning, safe suctioning, and appropriate non-invasive respiratory support, guided by structured tools such as the NNEW score and an Obturator/NAM nursing checklist—can safely prevent intubation in neonates with cleft lip and palate and facilitate readiness for definitive surgical repair. A multidisciplinary approach involving nursing, surgical, and dental teams is essential to optimizing outcomes in this high-risk population.

Keywords: Cleft lip and palate; Airway management; Neonatal intensive care; Non-invasive ventilation; Nasoalveolar molding; NNEW score

Predictive Value of the MicroNAPS Classification for Postoperative Outcomes in Infants with Robin Sequence

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Introduction: To evaluate the prognostic value of the MicroNAPS classification in predicting postoperative outcomes in infants with Robin sequence (RS) undergoing mandibular distraction osteogenesis (MDO).

Methods: This retrospective study included 255 RS infants who underwent MDO between January 2017 and December 2023 at Children's Hospital of Nanjing Medical University. Patients were classified using the MicroNAPS system. Postoperative outcomes were evaluated by the time to tracheal extubation and nasogastric tube removal. Kaplan Meier and multivariate analyses were applied.

Results: Among the 255 infants (134 males, 121 females; mean birth weight 3165 ± 531 g), weight of birth and MicroNAPS grade were significantly correlated with both extubation time and nasogastric tube removal time ($P < 0.001$). Kaplan Meier analysis confirmed delayed postoperative decannulation in higher MicroNAPS grades ($P < 0.001$).

Conclusion: The MicroNAPS classification effectively predicts postoperative respiratory and feeding recovery in RS infants following MDO. Weight of birth has also independent prognostic value.

Identification of Genetic Variants Associated with Microtia Using Next Generation Sequencing

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Introduction: Microtia is a congenital malformation of the external ear characterized by abnormal development of the auricle, ranging from minor structural abnormalities to complete absence (anotia). While genetic factors play a significant role in microtia pathogenesis, the genetic landscape in Indonesian populations remains largely unexplored. This study aimed to identify genetic variants associated with microtia in Indonesian patients using whole exome sequencing (WES).

Methods: We performed WES using next-generation sequencing (NGS) on 26 microtia patients recruited from Dr. Sardjito Hospital and Microtia Center at Universitas Airlangga Hospital. Patients were classified based on clinical presentation (syndromic vs. non-syndromic) and family history (familial vs. sporadic). Variant filtering was performed using multiple databases including dbSNP, 1000 Genomes, ExAC, gnomAD, and HGMD. Pathogenicity was assessed using in silico prediction tools including phyloP, CADD score, and Grantham score.

Results: Among 26 patients (69% male, mean age 24.88 years), 20 (77%) had syndromic microtia and 6 (23%) had non-syndromic microtia. Five patients (19%) had familial microtia and 21 (81%) had sporadic cases. Genetic findings were identified in 12 patients (46%). We identified 12 variants in 10 genes, including 6 novel variants in previously reported microtia-associated genes (FOXI3, SF3B4, CYP26A1, SIX1, TCOF1) and 4 possible novel candidate genes (TFCP2L1, IPPK, RABEP1, UBR4). A possible compound heterozygous variant was detected in SIRT5. The majority of variants showed autosomal dominant inheritance pattern with heterozygous state.

Conclusion: This study identified several genetic variants associated with microtia in Indonesian patients, including novel variants in known microtia genes and potential novel candidate genes. In conclusion, our findings reveal a clear relationship between specific genetic variants and phenotypic manifestations across different microtia subtypes, providing valuable insights for genetic counseling, diagnosis, and future precision-based management strategies.

**Pioneering Endoscopic-Assisted Single Stage Autologous Microtia
Reconstruction: A Binational Indonesia–Vietnam Surgical Innovation**

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Introduction: Microtia affects 1–5 per 10,000 births globally, with prevalence varying by region and ethnicity. Multi-stage autologous cartilage techniques for auricular reconstruction as the gold standard require a long time of treatment. Recent advanced technology as single-stage endoscopic-assisted reconstruction, shorter recovery time, lower the complication, and improve aesthetics outcome. In Indonesia, minimally invasive single-stage reconstruction with autologous cartilage could be an alternative due to the minimal facility.

Methods: Indonesian and Vietnamese surgical teams reconstructed a 16-year-old male with right lobule-type microtia utilizing single-stage endoscopic-assisted auricular reconstruction to achieve minimally invasive techniques and skin graft coverage. This technique employs autologous rib cartilage for the framework and is covered by a temporoparietal fascia flap.

Result: At 4 months postoperatively, the reconstructed auricle showed stable healing, good projection, excellent contour, and no baldness or major complications.

Conclusion: Endoscopic-assisted single-stage autologous microtia reconstruction is a highly promising procedure in the surgical management of microtia. This technique is efficient, cost-effective, free from donor-site morbidity in the scalp area, and effective in achieving good postoperative ear projection.

Precision Reconstruction for Craniofacial Intraosseous Venous Malformations with CAD/CAM and Patient-Specific Implants from Craniofacial Center in NTUH

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Introduction: Craniofacial intraosseous venous malformations (IOVMs) are rare benign vascular anomalies that frequently involve the frontal bone, orbital rim, and zygoma, resulting in progressive craniofacial deformity and functional impairment. However, achieving both radical resection and optimal craniofacial symmetry remains technically challenging. We present our eight-year experience using a one-stage treatment strategy combining virtual surgical planning (VSP), computer-assisted design/manufacturing (CAD/CAM), and patient-specific reconstruction (PSR).

Materials and Methods: Between January 2018 and June 2026, six consecutive patients with histologically confirmed craniofacial IOVMs. The cohort included four men and two women, with five lesions involving the left side and one right side of fronto-orbital region. All patients underwent preoperative computed tomography (CT) and magnetic resonance imaging (MRI) for lesion characterization and surgical planning. VSP was performed to define a safe bony margin of at least 5 mm, followed by fabrication of PSI cutting guides and mold or customized PEEK implants. A multidisciplinary team consisting of craniofacial plastic surgeons and neurosurgeons performed bicoronal exposure, en bloc resection of the osseous lesion, and immediate reconstruction using either customized PEEK implants or polymethylmethacrylate (PMMA) bone cement fixed with titanium plates and screws. Histopathological examination confirmed intraosseous venous malformation in all cases.

Results: Complete lesion excision was successfully achieved in all patients without the need for secondary resection. Immediate reconstruction restored craniofacial contour and orbital symmetry with high patient satisfaction regarding both aesthetic and functional outcomes.

Conclusions: One-stage en bloc excision with immediate patient-specific reconstruction represents an effective treatment strategy for symptomatic craniofacial IOVMs. Integration of CT/MRI-based diagnosis, VSP, CAD/CAM technology, and customized implants enables precise restoration of complex craniofacial anatomy while avoiding staged reconstruction. Although skeletal symmetry can be predictably restored using current digital technologies, postoperative temporal hollowing resulting from temporalis muscle atrophy remains a reconstructive challenge and warrants further investigation to optimize long-term aesthetic outcomes.

The Role of Non-Coding RNAs in Microtia: A Systematic Review of Expression Profiles and Molecular Pathways Related to Auricular Cartilage Development

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Introduction: Microtia is a congenital malformation of the external ear caused by disrupted auricular morphogenesis and abnormal elastic cartilage development. Although genetic factors have been implicated, the role of non-coding RNAs (ncRNAs) in microtia pathogenesis remains incompletely understood. The aim of this review is to evaluate ncRNA expression profiles in microtia and identify molecular pathways through which dysregulated ncRNAs may influence auricular cartilage development.

Methods: A systematic review was conducted in accordance with the PRISMA 2020 guidelines. Three electronic databases (PubMed, Scopus, and ScienceDirect) were searched to identify all relevant studies published between 2011 and 2026 reporting non-coding RNA expression in microtia or the microtia atresia spectrum. Retrieved records were screened according to predefined inclusion and exclusion criteria, and the methodological quality of eligible studies was assessed using the Newcastle Ottawa Scale. Seven studies met the eligibility criteria, comprising observational molecular profiling studies, one bioinformatic reanalysis, and experimental studies with downstream functional validation.

Results: Microtia cartilage exhibited dysregulated miRNAs, including downregulated miR-200c, miR-203, and miR-205, and upregulated miR-451 and miR-486-5p, alongside altered developmental genes such as OSR1 and TRPS1. LncRNA and circRNA analyses identified regulatory networks involved in extracellular matrix organization and developmental signaling. CircRNA profiling demonstrated upregulation of circCOL1A2, which suppressed chondrocyte proliferation and differentiation through the circCOL1A2 miR-637 DSEL axis. In microtia-atresia serum, apoptosis-related miRNAs and reduced TP53 expression were reported. Collectively, ncRNA dysregulation was associated with chondrocyte proliferation, differentiation, extracellular matrix remodeling, and auricular development.

Conclusion: Microtia is associated with multilayer ncRNA dysregulation affecting key pathways in auricular chondrogenesis and extracellular matrix regulation. These findings identify candidate ncRNAs and regulatory axes for future investigation, while highlighting the need for independent validation and functional studies.

Application value of indocyanine green lymphography in the management of stage I/ IIA microcystic lymphatic malformation of the tongue

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Background: This study aims to investigate whether indocyanine green lymphography (ICGL) facilitates the effectiveness and accuracy of current management of lingual microcystic lymphatic malformation (mLM).

Methods: This retrospective included patients under 18 years old with mLM of the tongue staged I or IIA, who underwent ICGL-aided surgical resection and sclerotherapy (ICGL group) or only surgical resection and sclerotherapy (non-ICGL group) between January 2019 and June 2024. The peri- and postoperative parameters of safety and feasibility were compared between two groups.

Results: A total of 42 patients were included, 19 of whom received ICGL-guidance and the other 23 were in non-ICGL group. The comparison of baseline data between the two groups revealed no significant difference. Compared to the non-ICGL group, the ICGL group demonstrated superior efficacy ($P=0.017$) and required fewer subsequent treatment sessions ($P=0.027$), but had longer operative duration ($P=0.001$). No significant differences were observed in terms of postoperative complications, length of hospital-stay, and follow-up period.

Conclusions: ICGL was associated with improved postoperative outcomes and less subsequent treatment. This technique may provide rational guidance with promising clinical prospects for management of mLM of the tongue.

Management of Macrocytic Lymphatic Malformation in the Cervicofacial Region Ultrasound-Guided Iodine Tincture Cauterization Combined With Intralesional Negative Pressure

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Purpose: The purpose of our study was to evaluate the efficacy and safety of ultrasound-guided iodine tincture cauterization combined with postoperative intralesional negative pressure in the management of cervicofacial cystic lymphatic malformation (cLM).

Method: From January 2019 to July 2021, indocyanine green lymphography was performed preoperatively to confirm the lymph inflow, and this treatment was administered in 71 patients with cervicofacial cLM in our center. All cases were evaluated by curative effects, treatment frequency, and adverse events. The duration of posttreatment follow-up was from 12 to 14 months.

Results: Indocyanine green lymphography indicated at least one lymphatic inflow in each cLM lesion. Excellent resolution was observed in 87.3% of cases, and good improvement of the treated cLM occurred in 9.9% of cases, and 2 cases with fair outcomes required subsequent treatment. It is noteworthy that no case was treated more than 3 times. Some minor adverse effects, including localized itch and scar, were managed by symptomatic treatment.

Conclusions: Because of satisfactory outcomes and low treatment frequency, ultrasound-guided iodine tincture cauterization combined with intralesional negative pressure represents an efficacious, safe, and feasible method for the management of macro-cLM in the cervicofacial region

Early Feeding Experiences Among Malaysian Mothers of Infants with Cleft Lip and Palate

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Objective: To evaluate early feeding experiences among Malaysian mothers of infants with non-syndromic cleft lip and/or palate (CLP) and identify clinical predictors of feeding outcomes. **Methods:** A cross-sectional study was conducted with 95 Malaysian mothers using a validated questionnaire to assess feeding practices, barriers, and professional support. Statistical analyses included chi-square tests, t-test, ANOVA with post-hoc comparisons, and multiple regression. **Results:** While mothers reported receiving moderately strong support ($M=6.97\pm2.02$), substantial feeding challenges persisted: 80% of mothers required more than two days to establish regular feeding patterns (43% >1 week), breast milk use declined from 54.7% to 27.4%, and 68.4% desired additional advice. Only 7.4% of mothers received guidance from a speech-language therapist. Cleft type significantly influenced both breastfeeding ability ($\chi^2=16.99$, $p=.001$) and overall feeding experiences ($F(3,91)=3.811$, $p=.013$). All infants with isolated cleft lip successfully breastfed, while isolated cleft palate was associated with the most negative feeding experiences ($M=5.51$) compared to unilateral cleft lip and palate ($M=6.46$, $p=.007$). Prenatal diagnosis did not improve feeding experiences ($p=.712$). Regression analysis identified establishment of feeding patterns, breastfeeding duration, and receiving support and advice as significant predictors of maternal feeding experiences ($R^2=0.342$, $p<.005$). **Conclusion:** Despite receiving moderate support, Malaysian mothers of infants with CLP continue to face significant feeding challenges. The substantial decline in breast milk provision, minimal involvement of speech-language therapists and failure of prenatal diagnosis to improve outcomes collectively reveal a critical gap between awareness and specialized care. Bridging this gap requires a coordinated care model led by an interdisciplinary cleft team from the point of diagnosis, alongside evidence-based caregiver training to optimize feeding outcomes.

Effects of an Adapted Nipple Device on Outcomes and Surgical Readiness in Cleft Lip and/or Palate Infants: A Retrospective Cohort Study

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Introduction: Infants with cleft lip and/or palate (CLP) face structural barriers that impair negative intraoral suction, causing feeding difficulties, inadequate nutritional intake, and preoperative anemia. These issues frequently delay essential corrective surgeries under standard clinical protocols. This study evaluated the effects of breast milk nutritional support delivered via an adapted nipple device (Happy in Baby Cleft) on preoperative hemoglobin (Hb) and hematocrit (Hct) levels, weight gain, and timely surgical readiness

Methods: A retrospective cohort study analyzed 22 CLP infants across 36 surgical procedures at Naresuan University Hospital. Participants were categorized into an intervention group using the adapted nipple device and a control group using standard nipples. Outcomes evaluated included preoperative Hb and Hct levels, body weight, surgical readiness rate, and age at cheiloplasty and palatoplasty. Data was analyzed using Mann-Whitney U and Fisher's Exact tests

Results: The intervention group showed significantly higher means preoperative Hb and Hct levels compared to controls. The intervention group achieved a 100% (13/13) surgical readiness rate for the Hb threshold, whereas controls achieved only 50.0% (3/6). Consequently, intervention infants underwent timely cheiloplasty at a median age of 3.53 months and palatoplasty at 10.50 months, whereas palatoplasty was delayed in controls (median 13.00 months)

Conclusion:

Combining breast milk nutritional support with an adapted nipple device significantly improves preoperative hematologic profiles, reduces anemia, and ensures timely surgical reconstruction for CLP infants within standard international timeframes

**Korat-Modified Nasoalveolar Molding Appliance With Primary Correction:
Nasolabial Morphological Outcomes in Unilateral Cleft Lip and Palate Patients**

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Introduction: Achieving facial symmetry in patients with unilateral cleft lip and palate (UCLP) requires coordinated surgical and pre-surgical orthopedic strategies. The regionally adapted nasoalveolar molding appliance (NAM) called Korat-NAM was developed to address local socioeconomic barriers while optimizing surgical readiness. This study assessed whether the use of this appliance before and after cheiloplasty with primary rhinoplasty (primary correction) produces measurable nasolabial improvement.

Materials and Methods: This longitudinal cohort study enrolled 26 UCLP patients. Those receiving Korat-NAM I pre-surgically and Korat-NAM II through 12 months post-operatively served as the experimental group ($n = 21$), while those managed with an active obturator alone constituted the control group ($n = 5$). Photographic assessments at 4 time points initial visit, pre-surgery, 3 weeks post-surgery, and 1 year post-surgery yielded 6 nasolabial measurements: nostril rim length, nostril height, nostril sill width, columella angle, vertical lip height, and horizontal lip length. Ratios of cleft-to-non-cleft side values (except for the columella angle) were analyzed using one-way ANOVA with Tukey HSD post-hoc test and Mann Whitney U test.

Results: Substantial nasolabial improvement was observed throughout treatment in the experimental group, with only mild relapse noted at 1 year post-surgery. Between-group comparison at that time point revealed significantly better nostril rim length and nostril height in the experimental group.

Conclusion: Integrating Korat-NAM into both pre- and post-surgical care produced nasolabial improvement in UCLP patients, supporting its role as a comprehensive soft tissue management tool beyond conventional pre-surgical use alone.

Long-Term Outcomes of Korat Nasoalveolar Molding Combined with Primary Gingivoperiosteoplasty in Complete Unilateral Cleft Lip and Palate: A 15-Year Follow-up

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Introduction: Early interdisciplinary management is essential for optimizing functional and esthetic outcomes in patients with complete unilateral cleft lip and palate (UCLP). Korat Nasoalveolar Molding (Korat NAM) was developed to reduce cleft severity before surgery by molding the alveolar segments and nasal cartilage. This report presents the long-term outcome of a patient with complete UCLP treated using the Korat NAM protocol and primary lip repair with gingivoperiosteoplasty (GPP), eliminating the need for secondary alveolar bone grafting.

Materials & methods: A female infant with left complete UCLP began Korat NAM at 6 days of age to align the alveolar segments, reduce the alveolar and palatal clefts, and improve the nasal deformity. At 5 months, primary cleft lip repair, nostril floor closure, primary rhinoplasty, and GPP were performed. Korat NAM II and III were subsequently used to maintain nasal form during early growth. Primary palatoplasty was completed at 1 year and 7 months. At 8 years, maxillary expansion with a removable appliance was followed by comprehensive orthodontic treatment until 15 years and 5 months. Restorative treatment and speech therapy were provided according to an interdisciplinary protocol.

Results: At 15 years and 5 months, the patient demonstrated a straight facial profile, good nasal projection, satisfactory lip esthetics, Class I occlusion, and a 2-mm overjet. Serial cephalometric evaluation showed no change in the ANB angle between 7 and 15 years. The alveolar cleft healed successfully after primary GPP, eliminating the need for secondary alveolar bone grafting. Functional speech and esthetic outcomes remained satisfactory throughout adolescence.

Conclusion: Korat NAM combined with primary lip repair and GPP achieved stable long-term alveolar continuity, favorable facial and occlusal outcomes, and eliminated the need for secondary alveolar bone grafting. Early interdisciplinary intervention may simplify subsequent treatment while providing predictable functional and esthetic rehabilitation in complete UCLP.

Optimising Aesthetic Outcomes in Unilateral Cleft Lip Repair: Three-Dimensional Anthropometric Analysis of the Modified Onizuka Technique

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Introduction: Cleft lip and/or palate represents the most common craniofacial anomaly. To correct this congenital deformity, surgeons have developed numerous cleft lip repair techniques. The two predominant approaches comprise geometric flap augmentation or the rotation-advancement principle along the philtral ridge. Combining the advantages of both approaches, Onizuka first described his technique in 1980. Herein, we employed 3D scanner technology to evaluate clinical outcomes following cleft lip repair using a modified Onizuka technique. The primary outcomes focused on anthropometric symmetry in lip and nasal proportions between the cleft and non-cleft sides post-repair.

Methods: A prospective cohort study was conducted in a tertiary craniofacial centre. Sixty-one patients with unilateral cleft lip and/or palate who underwent cleft lip repair were enrolled. Modified Onizuka technique incorporating relocation of key landmarks to the footplate of the medial crus, preservation of an angular design at the peak of cupid bow, and use of a V-Y advancement flap for frenulum reconstruction. Concurrent primary rhinoplasty and gingivoplasty were performed. Anthropometric symmetry assessed via 3D imaging at 1-year follow-up, including nostril width, columellar height, central and medial lip height, lateral lip height and length, and hemi-Cupid bow width. Intraclass correlation coefficients assessed intra- and interrater reliability.

Results: The cohort comprised 60.7% males, with 70.5% left-sided and 67.2% complete clefts. Median age at surgery was 5.0 months. All intraclass correlation coefficient values exceeded 0.75, indicating good to excellent reliability. No statistically significant differences were observed between cleft and noncleft sides (all $P > 0.05$). Mean differences were < 0.2 mm, below the threshold of human visual perception.

Conclusions: The modified Onizuka technique achieves symmetric outcomes in unilateral CL repair, validated by objective 3D metrics. Its emphasis on anatomic subunit reconstruction without preoperative numerical marking offers a versatile, reproducible approach for diverse cleft phenotypes.

CLASS (Cleft Lip Aesthetic Siriraj Scale): A Simplified Postoperative Assessment Tool for Cleft Lip Repair

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Introduction: Cleft lip and cleft palate (CLCP) remain the most challenging aspect in both aesthetic concerns and functional challenges. Assessment of cleft lip and nose repair outcomes is essential for evaluating surgical quality. However, many currently assessment tools are complex, time-consuming, or require expert evaluation. Therefore, this study aims to develop and validate a simplified postoperative aesthetic evaluation tool for cleft lip and nose deformity patients, reducing the burden on patients and caregivers while maintaining high standards of reliability and validity.

Methods: This study utilized 100 photographic images of cleft lip patients who have completed their final surgical stage at least six months prior. These images will be evaluated by three groups: expert, healthcare professions, and laypersons. The new scoring system consists of 10 questions, divided equally between the lip and the nose, with each question scored as 0, 0.5, or 1.0. Agreement with expert ratings was calculated as the percentage agreement for each anatomical position and averaged across all raters within the healthcare professions and layperson groups.

Results: The percentage agreement with expert assessment scores up to 83.2% among healthcare professions and 79.3% among laypersons. Healthcare professions demonstrated consistently higher agreement than laypersons with the highest agreement in Position 10 (83.2% for healthcare professions vs. 79.3% for laypersons) and lowest agreement in Position 8 (42.5% for laypersons vs. 55.0% for healthcare professions). Overall average agreement is 68.2% for healthcare professions and 64.2% for laypersons.

Conclusion: The new scoring system demonstrated moderate to good agreement with the expert evaluation of the cleft lip and nose deformity with less time consuming. However, areas with lower agreement with expert may require further refinement of the pictorial references or clearer definition of the positions. This study still suggests a practical and reliable aesthetic scoring system in post-operative cleft lip and nose repair.

Predicting Nasolabial Revision Surgery in Repaired UCLP Using the Asher-McDade Aesthetic Index: A Pilot Study

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Introduction: Patients with repaired complete unilateral cleft lip and palate (UCLP) often undergo secondary revision surgery to improve nose and lip esthetics. However, the objective criteria guiding these surgical decisions remain unclear. The Asher-McDade Aesthetic Index (AMAI) is a standardized tool used in evaluating nasolabial appearance; however, its ability to predict surgical revision has not been thoroughly assessed. This pilot study explored the predictive capabilities of individual components and composite scores of the AMAI for determining the need for nasolabial revision surgery in patients with repaired complete UCLP.

Methods: A single-center retrospective cross-sectional pilot study was conducted at a cleft and craniofacial center. Thirty-two pre-adolescent patients with complete UCLP who had undergone primary repair were included. Standardized frontal and lateral facial photographs were assessed by three calibrated plastic surgeons using the AMAI. Components evaluated included nasal form, nasal symmetry, vermilion border, and nasolabial profile. A separate panel of three plastic surgeons independently determined the need for nose and/or lip revision surgery by majority consensus based on the same photographs. Receiver operating characteristic (ROC) analysis was used to evaluate the predictive ability of individual AMAI components and composite scores, with optimal cutoff values identified using Youden Index.

Results: Nasal symmetry demonstrated the highest predictive accuracy for nose revision, and vermilion border was the strongest predictor for lip revision. Although composite scores showed promising predictive potential, they did not surpass the predictive power of the strongest individual AMAI components.

Conclusion: This pilot study provides preliminary evidence that the AMAI can serve as a useful objective tool to predict the need for revision surgery in patients with repaired UCLP.

Establishing Nostril Symmetry in Cleft Nasal Deformity: Rim Reset and Tube Concept

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Introduction: In the treatment of cleft lip nasal deformity, achieving nostril symmetry in frontal and basal views remains challenging. The reverse-U concept demonstrated that incising the skin envelope and transferring skin into the nasal lining can improve nostril morphology. However, transferred skin may gradually return to the external skin envelope, resulting in recurrent deformity. Furthermore, the long-term stability of skin incorporated into the nasal lining is difficult to predict. We therefore developed an approach that reshapes the skin envelope and nasal lining independently before combining them to establish more stable nostril symmetry.

Materials & Methods: The skin envelope was redesigned using the rim reset incision, which repositions and reshapes the alar rim independently of the nasal lining. The nasal lining was conceptualized as a three-dimensional tube and modified according to the tube theory, using deformation and expansion to adjust its length, curvature, and circumference. After the skin envelope and lining were independently reshaped to achieve bilateral symmetry, they were combined to reconstruct the nostril. Clinical outcomes were evaluated in frontal and basal views, with particular attention to alar rim position, nostril contour, and symmetry.

Results: This approach achieved improved nostril contour and symmetry in selected cases. Independent manipulation of the skin envelope and nasal lining facilitated more controlled correction of each anatomical component. However, the ideal alar rim position in the frontal view did not always correspond to that in the basal view, and complete symmetry could not be achieved in every case.

Conclusion: Rim reset and tube theory provide a conceptual framework for independently reconstructing the skin envelope and nasal lining in cleft lip nasal deformity. Although further refinement is required, this approach may improve the predictability and long-term stability of nostril reconstruction.

Rhinoseptoplasty in cleft lip patients

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Introduction: Rhinoplasty after initial cleft lip repair is a challenge a plastic surgeon's skill. The present paper reports the results of treatment of 56 patients with unilateral and 18 with bilateral cleft lip nose deformities.

Methods: Anthropometrical analysis of photographs of each patient by H.S. Byrd and preoperative modeling of the expected results were carried out. ENT-examination and rhinomanometry revealed that 94 per cent of patients had deviated septum and 21 per cent had nasal airway obstruction on both sides. An open approach was used for all procedures. The cartilage graft was obtained from the septal cartilage through septoplasty, leaving the L-strut. If it was necessary additional rib graft was harvested. After wide mobilization of lower lateral cartilages columellar strut grafts were applied in all the patients, to provide the rotation, projection, and nasal tip support. After transposition of the lower lateral cartilages lateral crura on the cleft side were strengthened with cartilage strut graft displaced in the skin pocket of the nostril. If patient had upper micrognathia, Le Fort I osteotomy and rhinoplasty were carried out simultaneously.

Result: Good functional and aesthetic results were obtained in 86 percent cases.

Conclusion: Anthropometrical analysis of the patient's face, along with the combination of traditional methods of secondary cleft lip nose correction and techniques for plastic aesthetic surgery allows the surgeon to achieve improved surgical results.

Cleft and Noncleft Rhinoplasty on Social Media: An Evaluation of Published Outcomes on Instagram

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Introduction: Social media has become a powerful communication tool within healthcare and is increasingly used by surgeons to publish surgical outcomes for both educational and marketing purposes. Patients are using such images to research procedures and when making treatment decisions. However, the quality, completeness, and objectivity of surgical outcomes presented remain uncertain. The aim of this study was to assess the quality of cleft rhinoplasty results published on social media.

Patients and Methods: Instagram was searched using the terms cleft nose, cleft rhinoplasty, and cleft surgeon to identify publicly available cleft rhinoplasty posts. For each surgeon, an index cleft rhinoplasty post was identified. Cosmetic rhinoplasty posts from the same surgeon were used as an internal control.

An ideal image set was defined as including at least six views: lateral and obliques, frontal, and basal. For unilateral cleft cases, whether the lateral view of the cleft side was shown was noted. Duration of follow-up was recorded as on-table, or at the described time point

Results: 438 rhinoplasty cases were included; 155 cleft and 283 cosmetic. Overall, there was no significant difference in the mean number of views posted for cleft (3.16) compared with cosmetic cases (3.05). In unilateral cleft rhinoplasty, only 60 of 101 patients (59%) had a lateral view of the cleft side documented. Immediate on-table postoperative images were published in 43.8% of cleft and 35.3% of cosmetic cases. Only 9.6% of cleft cases and 8.8% of cosmetic cases included photographs at or beyond one year postoperatively.

Discussion: A selective or limited presentation of post operative images may be misleading and can imply a more favourable outcome. Instagram is increasingly used by patients seeking information about surgical procedures, including cleft rhinoplasty, but as surgeons engage with social media, there is a responsibility to publish outcomes that are accurate and comprehensive.

**Harmonizing Form and Function in Facial Cleft Repair with Tissue
Expansion–Assisted Cheek Flap and Premaxillary Setback: A Case Report**

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Background : Facial clefts are uncommon congenital defects that arise from incomplete fusion of facial prominences during embryonic development. Their surgical repair is demanding and must be tailored to each patient to achieve both functional and cosmetic goals. Early soft-tissue reconstruction with local flaps is pivotal. Preoperative expansion of the cheek offers additional matching tissue for coverage, allowing tension-free closure and improved contour that enhance functional and aesthetic outcomes.

Methods: An 8-year-old girl with a rare bilateral facial cleft underwent staged soft-tissue reconstruction. Initially, a tissue expander was implanted in the right cheek to generate adequate local tissue for subsequent flap advancement. Following sufficient expansion, a cheek advancement flap was elevated and advanced to close the soft-tissue defect. Concurrently, a premaxillary setback was performed to correct skeletal projection, facilitate tension-free soft-tissue closure, and improve midfacial contour and oral competence.

Result : Postoperative follow-up revealed satisfactory soft-tissue alignment, restoration of facial symmetry, and notable improvement in oral function. The tissue-expanded cheek flap provided tension-free coverage, while the premaxillary setback enhanced facial projection and oral competence. No major complications were recorded in the early postoperative period.

Conclusion: Tessier clefts involving lines 2,12 and 4 are exceedingly rare and pose considerable reconstructive challenges. Staged soft-tissue reconstruction using a tissue-expanded cheek flap combined with skeletal correction via premaxillary setback can produce favorable functional and aesthetic outcomes.

Oral Health–Related Quality of Life and Associated Factors in Preschool Children with Cleft Lip and/or Palate: A Cross–Sectional Study

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Introduction: Cleft lip and/or cleft palate (CL/P) can affect multiple aspects of children development. This study aimed to evaluate oral health–related quality of life (OHRQoL) and identify its associated factors in pediatric patients aged 3 to 5 years with CL/P, utilizing caregiver proxy reports.

Methods: This cross–sectional descriptive study assessed 44 primary caregivers of children aged 3 to 5 years receiving multidisciplinary cleft care at Naresuan University. Data collection included demographic profiles, medical records, and face–to–face caregiver interviews utilizing the Thai version of the Child Oral Impacts on Daily Performances (Child–OIDP) index. Associations between OHRQoL and independent variables were analyzed using Chi–square tests.

Results: The findings indicated that 56.8% of the subjects experienced oral impacts on daily performances in at least one domain. The most frequently affected daily activities were speaking (43.2%), maintaining emotional stability (15.9%), and eating (11.4%), although the overall mean impact score remained relatively low (2.4 ± 1.73). Poorer OHRQoL was significantly associated with a lack of home based toothbrushing, non–use of fluoride toothpaste, and a history of severe toothache ($P < 0.05$). Conversely, Biosocial factors (gender and age), clinical cleft characteristics, and specific treatment variables showed no statistically significant associations with OHRQoL.

Conclusion: Routine oral hygiene practices and dental pain prevention play a more crucial role in the OHRQoL of young children with CL/P than the structural severity of the cleft anomaly itself. Multidisciplinary cleft care programs should prioritize home–based oral health promotion while integrating targeted speech therapy and emotional management interventions.

Transforming a V-Shaped Maxillary Arch into Functional Harmony: Two-Phase Orthodontic Treatment in Bilateral Complete Cleft Lip and Palate

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Introduction: Management of bilateral complete cleft lip and palate (BCLP) requires long-term interdisciplinary care to address complex skeletal, dental, and soft tissue abnormalities throughout craniofacial growth. This case report presents the long-term clinical outcomes of two-phase orthodontic treatment combined with adjunctive soft tissue surgery in a patient with BCLP.

Materials & Methods: A 9-year-old boy with bilateral complete cleft lip and palate presented with maxillary constriction, anterior and posterior crossbites, skeletal Class III malocclusion, congenital absence of the maxillary left lateral incisor, and an impacted maxillary right canine. Soft tissue revision, including finger flap reduction and vestibuloplasty, was performed before orthodontic treatment. Phase I consisted of maxillary expansion using a quad-helix appliance followed by retention with a transpalatal arch. Phase II involved comprehensive fixed appliance therapy, including orthodontic traction for eruption of the impacted maxillary right canine.

Results: At 17 years of age, treatment achieved a well-coordinated maxillary arch, correction of anterior and posterior crossbites, ideal overjet and overbite, satisfactory dental alignment, and successful eruption of all permanent teeth except the congenitally missing maxillary left lateral incisor. Functional occlusion and facial esthetics were markedly improved and remained stable at treatment completion.

Conclusion: This case demonstrates that a carefully planned interdisciplinary two-phase orthodontic approach, combined with appropriate soft tissue surgery, can successfully manage the complex dentofacial problems associated with bilateral complete cleft lip and palate. Long-term treatment from mixed to permanent dentition resulted in favorable facial esthetics, functional occlusion, and stable arch development.

Remote Online Rating of the GOSLON Yardstick Using Digital Models Compared to Onsite Rating

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Introduction: Standardized outcome assessment is essential for comparing treatment protocols in patients with unilateral cleft lip and palate (UCLP). Great Ormond Street, London, and Oslo (GOSLON) Yardstick is the most widely used index for evaluating dental arch relationships during mixed dentition. Advances in digital technology have shifted cleft outcome assessment from plaster models to digital models and standardized photogalleries, with previous studies demonstrating comparable reliability between these formats. More recently, remote collaboration has become increasingly feasible, allowing assessors from different centers to participate without the need for travel. However, it remains unclear whether variations in viewing conditions, such as assessment setting, device, or display environment, may influence GOSLON scoring. This study aimed to compare the reliability of remote online and traditional onsite GOSLON assessments using standardized photogalleries of 3D dental models in patients with UCLP, supporting future multicenter outcome evaluation.

Methods: This single-center crossover study included 34 patients with non-syndromic complete unilateral cleft lip and palate. Eligible participants had dental models obtained during the mixed dentition stage before receiving any orthodontic treatment. Three calibrated assessors independently evaluated photogalleries of digital dental models using the GOSLON Yardstick in both onsite and remote online sessions. Agreement between the two assessment settings, together with intra- and interrater reliability, was analyzed using weighted Cohen's kappa, the intraclass correlation coefficient (ICC), and Pearson's correlation coefficient.

Results: Ratings obtained from the remote online and onsite assessments demonstrated very good level of agreement. Likewise, intrarater reliability for both assessment methods was consistently high, with very good level of agreement.

Conclusion: Remote online assessment produced GOSLON scores that closely matched those obtained onsite. These findings indicate that differences in assessment location, viewing conditions, or display devices do not meaningfully influence GOSLON ratings, supporting the use of remote online evaluation as a reliable alternative to onsite assessment.

Customized Guided Maxillary Distraction for Severe Cleft Hypoplasia: Bridge to Orthognathic Surgery

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Introduction: Maxillary advancement for severe hypoplasia in cleft patients is severely limited by dense palatal scarring from prior palatoplasty and alveolar bone grafting. This study objective is to demonstrate how combining virtual surgical planning with template-guided internal distraction osteogenesis safely achieves a massive twelve millimeter advancement, serving as a predictable precursor to future orthognathic refinement.

Materials & Methods: A fifteen-year-old cleft patient presented with a chief complaint of masticatory dysfunction, stating he could not chew well due to severe maxillary retrognathia. Virtual surgical planning was utilized to fabricate a custom three-dimensional printed surgical guide. This template dictated the precise Le Fort I osteotomy cuts and the absolute vector for internal distractor placement, safely avoiding dental roots and compromised bone zones.

Result: The template-guided internal distraction successfully overcame dense soft-tissue resistance, achieving the planned twelve millimeter advancement without hardware failure or wound dehiscence. An optimal sagittal relationship and improved facial profile were established during a critical adolescent window. This major skeletal correction expanded the soft-tissue envelope, significantly reducing the complexity and relapse risks of future definitive orthognathic surgery after growth cessation.

Conclusion: For severe, scarred cleft maxillary hypoplasia, single-stage acute advancement is not advised. Template-guided internal distraction osteogenesis allows for high-precision, high-magnitude movements. This staged digital workflow serves as an invaluable bridge, conquering the compromised soft-tissue envelope and optimizing the skeletal foundation for future definitive orthognathic surgery.

Three-Dimensional Virtual Surgical Planning-Guided Maxillary Distraction Osteogenesis with Patient-Specific CAD/CAM Surgical Guides: A Case Report

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Introduction: Severe maxillary hypoplasia is a common sequela in patients with cleft lip and palate (CLP) and often requires large maxillary advancement to restore facial balance and functional occlusion. Although Le Fort I distraction osteogenesis provides stable skeletal advancement, precise control of the distraction vector remains challenging. Inaccurate distractor positioning may lead to asymmetric advancement, occlusal discrepancies, and additional corrective procedures.

Methods: A 17-year-old Thai female with a history of repaired left complete unilateral cleft lip and palate presented with severe Class III malocclusion. The patients underwent Le Fort I distraction osteogenesis using a digital workflow. Preoperative CT-based virtual planning was used to determine the osteotomy design, distraction vectors, and distractor positions. CAD/CAM-manufactured patient-specific cutting guides and surgical splints cooperate with customized guides for distractor adaptation and were fabricated to accurately transfer the virtual plan to the operating room.

Results: The custom-made guides allowed accurate intraoperative osteotomies and application of internal distractors according to the planned distraction vectors. The distraction period consisted of 5 days of latency period, 14 days of activation at a rate of 1 mm/day, and 2 months of consolidation phase. This period 10 maxillary advancement was obtained. The patients obtained the desired maxillary advancement, with satisfactory correction of the occlusion, improvement in the facial profile, and favorable skeletal results.

Conclusion: Three-dimensional virtual surgical planning and patient-specific CAD/CAM surgical guides enabled predictable transfer of the virtual plan to the operative field during maxillary distraction osteogenesis. This digital workflow facilitated accurate distractor positioning and activation planning, reduced operative time, and achieved satisfactory skeletal, occlusal, and aesthetic outcomes.

Interdisciplinary Orthodontic–Surgical Management of Severe Skeletal Class III in Unilateral Complete Cleft Lip and Palate Using Intraoral Maxillary Distraction Osteogenesis and BSSRO: A Case report

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Background: Patients with complete cleft lip and palate (CLP) commonly develop maxillary growth deficiency secondary to congenital deformity and scar tissue from primary lip and palate repair. Conventional Le Fort I advancement alone may be insufficient in patients requiring large maxillary advancement because of increased relapse risk and soft tissue tension. Objectives: To present the interdisciplinary management of a severe unilateral complete cleft lip and palate utilizing maxillary distraction osteogenesis.

Materials & Methods: A 20-year-old male patient with a repaired left unilateral complete cleft lip and palate with facial asymmetry and chin deviation to the left. The interdisciplinary treatment plan included pre-surgical orthodontics and orthognathic surgery. This patient underwent comprehensive presurgical orthodontic preparation, focusing on dental decompensation through maxillary incisor proclination and alignment of the collapsed maxillary segment. Due to the significant maxillary advancement required, a combined surgical approach was selected, featuring a Le Fort I osteotomy with intraoral maxillary distraction osteogenesis (5 mm advancement) and a bilateral sagittal split ramus osteotomy (4 mm setback) to correct the dental midline and maxillary canting. Internal fixation titanium miniplates was done following the distraction protocol and a 10-week consolidation period, to ensure skeletal stability.

Results: The treatment result improved both facial esthetics and function. Facial esthetics were complemented by improved upper lip support, better paranasal contouring, and the correction of maxillary canting for a more esthetic smile. From a dental perspective, the patient achieved stable class I canine and molar relationships, positive overjet, and normal overbite within well-aligned arches and coincident midlines.

Conclusion: This case demonstrates that an integrated orthodontic–surgical approach can successfully rehabilitate severe skeletal class III deformity associated with unilateral cleft lip and palate, resulting in excellent facial esthetics, functional occlusion, and long-term stability.

Combined Intraoral Distraction Osteogenesis and Bilateral Sagittal Split Osteotomy Treatment in Cleft Lip and Palate: A Case Report

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Background: Patients with a history of cleft lip and palate (CLP) often present with severe midface hypoplasia and skeletal discrepancies that require advanced reconstructive techniques.

Objectives: To present the comprehensive management of a severe maxillofacial deformity utilizing intraoral distraction osteogenesis (IDO).

Materials & Methods: An 18-year-old male patient with a right unilateral complete CLP presented with marked facial asymmetry, characterized by a larger left side and chin deviated 5-mm to the left. Clinical and cephalometric evaluations revealed a midface deficiency, concave profile, prognathic chin, retruded upper lip, and acute nasolabial angle. Diagnoses included a skeletal and dental Class III relationship, severe maxillary hypoplasia, mandibular orthognathism, laterognathia and a severe anterior crossbite. The interdisciplinary treatment plan included pre-surgical orthodontics, strategic tooth extractions, and an alveolar bone graft. The primary surgical intervention featured a LeFort I osteotomy with maxillary distraction using IDO combined with a bilateral sagittal split osteotomy (BSSO). The IDO treatment followed a staged protocol: a 4-day latency period, a 19-day activation period, and a 5-week consolidation phase. The activation phase successfully achieved 10 mm of maxillary advancement. Elastic traction was applied to close a residual open bite. The devices were surgically removed 70 days post-operation. Following the removal of the distractors, the patient entered post-surgical orthodontic detailing which included correction of anterior/posterior crossbite and posterior openbite.

Results: Treatment resulted in significant improvements in facial esthetics, dental esthetics, and oral function. Enhanced midface projection and improved upper lip support produced a more harmonious facial profile and smile. Normal overjet/overbite, well-aligned dental arches, coincident dental midlines, and excellent intercuspation were achieved, resulting in a stable postoperative occlusion.

Conclusion: This staged interdisciplinary approach effectively corrected the skeletal, dental and soft tissue discrepancies. Final aesthetic refinements, including planned lip scar revision and rhinoplasty, thereby demonstrating the efficacy of IDO in complex facial reconstruction.

Treatment of Maxillary Retrusion via Lefort I Osteotomy Combined with Distraction Osteogenesis in Patients with Cleft Lip and Palate

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Introduction: Maxillary retrusion following cleft lip and palate (CLP) repair poses a significant challenge in secondary reconstruction. LeFort I osteotomy combined with distraction osteogenesis (LeFort I-DO) offers advantages in bone reconstruction and soft tissue adaptation. However, data on long-term stability and influencing factors remain limited. This study evaluates the outcomes and stability of LeFort I-DO for maxillary hypoplasia in CLP patients.

Methods: A retrospective analysis was conducted on 51 CLP patients with maxillary hypoplasia treated with LeFort I-DO between January 2017 and June 2022. Preoperative and postoperative cephalometric measurements (SNA, SNB, ANB, alveolar cleft distance), surgical parameters, complications, and follow-up data were collected. Statistical analysis employed independent samples t-tests, Mann-Whitney U, Fishers exact, and chi-square tests ($P < 0.05$ significant).

Results: The mean patient age was 12.0 ± 1.5 years. Postoperatively, the SNA angle significantly improved from $66.6^\circ \pm 3.0$ to $83.4^\circ \pm 3.9$ ($P < 0.001$), stabilizing at $82.7^\circ \pm 3.5$ at 1-year follow-up (T2). At 3–5 years postoperatively (T3), SNA decreased slightly but significantly to $81.7^\circ \pm 3.5$ ($P = 0.02$ vs T1). The relapse rate (SNA reduction $> 2^\circ$) was 27.5%. Alveolar cleft distance remained stable postoperatively. Multivariate analysis identified a slower distraction rate (0.5 mm/day vs 1.0 mm/day; $P = 0.027$) and a longer consolidation period (mean 23.1 vs 18.7 weeks in non-relapse vs relapse groups; $P = 0.004$) as significant protective factors against relapse.

Conclusion: LeFort I-DO effectively corrects maxillary hypoplasia in CLP patients and demonstrates good stability within the first three years. To enhance long-term stability, a distraction rate of 0.5 mm/day and an extended consolidation period (approximately 23 weeks) are recommended.

Stepwise Skeletal Correction in Hemifacial Microsomia: From Distraction to Guided Orthognathic Surgery

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Hemifacial microsomia (HFM) is the second most common craniofacial birth defect resulting from congenital underdevelopment of structures derived from the first and second branchial arches, commonly affecting the mandible. A 22-year-old Thai female was referred to our department with Type IIB HFM, having previously undergone right commissure repair and ear reconstruction. Clinical examination revealed facial asymmetry, a V-shaped upper and lower arch, and skeletal Class II deformity with right-sided asymmetry. Intraorally, she presented with an Angle's Class II occlusion and a right-shifted lower midline. Diagnosis confirmed right-sided hemifacial microsomia with craniofacial fibrous dysplasia.

Management followed a staged protocol. Initial treatment included right ramus distraction osteogenesis with an internal distractor and surgically assisted rapid palatal expansion (SARPE) for transverse maxillary widening. With the aid of advanced 3D virtual planning using Dolphin software, the patient underwent comprehensive orthognathic surgery for definitive treatment, including Le Fort I osteotomy, bilateral sagittal split osteotomy, genioplasty, and bone grafting with a left iliac crest bone graft. The surgical objectives were to advance both the maxilla and mandible, achieve counterclockwise rotation, reposition the maxilla to the left, and refine chin projection. To ensure precision, customized cutting guides and patient-specific fixation plates were utilized, enabling accurate osteotomies and occlusion stability.

Postoperatively, bone resorption developed at the right mandible, which was corrected using another iliac crest bone graft and reconstruction plate. One year later, bone healing was confirmed with a stable occlusion. At present, the patient demonstrates enhanced facial symmetry, Angle's Class I occlusion, proper intercuspation, and elimination of open bite, with marked functional, aesthetic, and psychosocial benefits.

Bimaxillary Osteotomy for Facial Asymmetry Associated with Presumed Infantile Hemangioma

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Introduction: Infantile hemangiomas usually undergo spontaneous involution; however, large facial lesions may rarely cause persistent skeletal deformity and facial asymmetry. We report a case of facial asymmetry and occlusal cant associated with a presumed infantile hemangioma, successfully treated with bimaxillary osteotomy and soft-tissue suspension.

Methods: A 26-year-old woman presented with facial asymmetry and residual right lower eyelid ectropion after multiple treatments for a congenital right cheek hemangioma, including laser therapy, sclerotherapy, tissue-expander-assisted reconstruction, cartilage grafting, and full-thickness skin grafting. Computed tomography demonstrated an occlusal cant, vertical discrepancies of the maxilla and mandible, right maxillary overgrowth, and inferior displacement of the right zygomatic arch. Le Fort I osteotomy with 5.5-mm superior repositioning of the right posterior maxilla and bilateral sagittal split ramus osteotomy were performed. Zygomatic osteotomy was additionally performed to correct the inferiorly displaced zygomatic arch. The right midfacial soft tissue was suspended to the infraorbital rim, followed by temporary lower eyelid suspension.

Results: Postoperatively, the occlusal plane was leveled, the maxillary midline was aligned with the facial midline, and facial symmetry improved. The right lower eyelid ectropion also improved without recurrence at 6 months. The patient reported satisfactory functional and aesthetic outcomes.

Conclusion: For facial asymmetry associated with a large facial hemangioma, correction of both skeletal and soft-tissue deformities is essential. Bimaxillary osteotomy can restore skeletal symmetry and provide a stable framework for soft-tissue suspension.

Two-Stages Mandibular Symmetry Enhancement Following BSSRO: A CBCT Analysis of 60 Consecutive Patients with Asymmetric Prognathism

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Introduction: The remodeling process of asymmetrically prognathic mandibles following bilateral sagittal split ramus osteotomy (BSSRO) remains inadequately understood. This study aims to clarify the sequential changes in mandibular symmetry after BSSRO.

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Methods: A retrospective analysis was conducted on 60 consecutive patients with asymmetric prognathism who underwent BSSRO between January 2018 to December 2023. CBCT scans were obtained at three different time points: T0 (within 2 weeks before surgery), T1 (within 2 days postoperatively) and T2 (at least 6 months postoperatively). Mandibular symmetry was quantified using root mean square error (RMSE), calculated from spatial discrepancies between the right-deviated mandibles and its mirrored counterpart. Additionally, positional discrepancies of 12 landmark points and volumetric differences of 6 mandibular segments were assessed using paired t-test.

Results: At T0, the RMSE was 2.729, which significantly decreased to 2.163 after BSSRO ($p < 0.0001$), and further to 1.916 at T2 ($p < 0.001$). During T0-T1, X-directional discrepancies in CoG-C, MF and CoG-B were corrected. However, BSSRO increased the Y-directional discrepancies in Go and Cd and Z-directional discrepancies in CoG-R, with volumetric discrepancies enlarging in three mandibular segments (C: $p = 0.002$; B: $p = 0.003$; R: $p < 0.001$). During T1-T2, significant reductions were observed in X- and Z-directional discrepancies of Go and Z-directional discrepancies of CoG-R, while volumetric asymmetry in the mandibular body ($p = 0.001$) and ramus ($p < 0.001$) was resolved.

Conclusion: Mandibular symmetry enhancement following BSSRO occurs in two distinct stages. The first stage primarily results from repositioning the deviated distal segment, while the second stage is driven by bony remodeling of the morphologically asymmetric proximal segments.

Condylar–Ramus Index Predicts Postoperative Condylar Stability in Mandibular Setback Surgery: A 3D Morphometric Analysis

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Introduction: Bilateral sagittal split ramus osteotomy (BSSRO) is the standard treatment for correcting mandibular prognathism and restoring facial symmetry in asymmetric cases. While postoperative condylar displacement is common, the relationship between preoperative condylar morphology and relapse patterns remains poorly understood. This study investigates whether condylar volumetric parameters can predict postoperative condylar stability following BSSRO.

Methods: We conducted a retrospective cohort study of class III asymmetry patients undergoing BSSRO between January 2018 and December 2023. Three-dimensional CBCT datasets were collected at three time points: preoperative (T0), immediate postoperative (T1), and 6-month follow-up (T2). At T0, mandibular condylar and ramus were segmented in Mimics 26.0, and the condyle–ramus index (CRI: the ratio of condylar and ramus volume) was calculated. Quantitative assessment of the condylar displacement was quantified for both surgical correction (T0–T1) and relapse phase (T1–T2), including three-dimensional translational and rotational changes. Additionally, correlation analyses between volumetric parameters and the relapse magnitude were evaluated.

Results: A total of 20 patients (40 condyles) with asymmetric prognathism were included. The mean condylar and ramus volume are $1127.8 \pm 241.4 \text{ mm}^3$ and $8793.6 \pm 1444.9 \text{ mm}^3$, respectively. Compared with intraoperative outcome, during relapse phase, condylar segment exhibited more significant anteroposterior displacement ($P=0.002$) and rotational relapse (Roll: $P=0.001$; Yaw: $P=0.004$). Key correlation included: during T0–T1, ramus volume negatively correlated with transverse displacement distance ($r=-0.345$, $P=0.029$); during T1–T2, larger condylar volume was associated with reduced vertical relapse ($r=-0.381$, $P=0.015$), while higher CRI predicted less roll rotation ($r=-0.406$, $P=0.009$).

Conclusions: Condylar volume and CRI are potential predictors of postoperative condylar stability. Both translational and rotational relapse are influenced by preoperative condylar morphology, highlighting the need for patient-specific surgical planning in asymmetric cases. Further multi-center studies with extended follow-up are recommended to validate these findings.

Comparative Skeletal Stability of Surgery-First Versus Conventional Orthognathic-First Approaches in Skeletal Class III Malocclusion: A Systematic Review and Meta-Analysis

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Introduction: The surgical-first approach (SFA) offers shorter treatment time and earlier aesthetic improvement than the conventional orthodontics-first approach (COA) for skeletal Class III malocclusion, but its postoperative skeletal stability remains controversial. This systematic review and meta-analysis aims to compare their long-term skeletal stability and provide evidence-based guidance for clinical decision-making.

Methods: A systematic search of PubMed, Web of Science and Cochrane Library was conducted for controlled clinical studies comparing SFA and COA in skeletal Class III malocclusion, published between 2007 and July 2026. Two independent reviewers performed literature screening, data extraction and risk-of-bias assessment. Meta-analyses were conducted using Review Manager 5.4 software.

Results: Thirteen retrospective non-randomized controlled trials encompassing 481 patients (230 in the SFA group and 251 in the COA group), were included. Meta-analysis focused on postoperative horizontal and vertical changes at point A, point B, and pogonion (Pog). No statistically significant intergroup difference was observed for horizontal movement at point A (MD = 0.06, P = 0.61). Vertical displacement at point A was marginally greater in the SFA group (MD = 0.35, P = 0.005). Horizontal changes at point B and pogonion were significantly larger in the SFA group (point B: MD = 0.66, P < 0.001; Pog: MD = 1.06, P = 0.002). No significant between-group differences were found for vertical changes at point B or Pog (point B: P = 0.10; Pog: P = 0.06).

Conclusion: Current evidence indicates that the SFA group exhibits slightly inferior stability at point A and greater horizontal displacement at point B compared with the COA group. While these differences are statistically significant, all dimensional changes remain within clinically acceptable limits. Further high-quality, large-sample prospective studies are warranted to confirm these findings. Individualized treatment planning, incorporating precise presurgical prediction, should be tailored to each patient's clinical presentation.

Surgical outcome of unicoronal craniosynostosis by fronto-orbital distraction osteogenesis: A case series report

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Introduction: Unicoronal synostosis (UCS) is a rare congenital craniofacial condition caused by premature fusion of a single coronal suture, resulting in progressive craniofacial asymmetry. Fronto-orbital distraction osteogenesis (FODO) has emerged as an alternative surgical approach, offering advantages over traditional fronto-orbital advancement (FOA), particularly when performed at early stage. Aims: To evaluate the preliminary surgical outcomes of FODO in patients with UCS, focusing on craniofacial morphological changes and symmetry correction and to discuss our experience with the procedure.

Methods: A retrospective descriptive case series was conducted in patients with UCS who underwent FODO at the Vietnam National Children Hospital, between January 2022 and January 2026. Surgical outcomes were assessed, including clinical characteristics, operative and distraction protocol characteristics, intracranial volume change and postoperative complications. Differences between pre- and postoperative orbital dystopia angle (ODA), cranial vault asymmetry index (CVAI), and skull base axis angulation (SBAA) were analysed.

Results: Five patients with isolated UCS underwent distraction device placement, with a mean postoperative follow-up of 23.8 months. The mean age at surgery was 7.4 months. The distractors were advanced by a mean of 24.61 mm, resulting in a mean cranial volume increase of 27.85%. Significant improvements were observed in ODA and SBAA compared with preoperative measurements ($p = 0.001$ and $p = 0.003$, respectively), whereas the change in CVAI was not ($p = 0.077$). The mean operative time was 130 minutes, and the average intraoperative transfusion requirement was 14.03 mL/kg. Postoperative complications were primarily related to device-site infections.

Conclusions: FODO can be a safe and effective surgical option for isolated UCS. Our technique modifications aim to preserve vascular supply to the cranial bone flap and extend osteotomy lines to improve correction of the nasal root and contralateral frontal region. Preliminary results demonstrate favourable aesthetic improvement, enhanced craniofacial symmetry and a potential reduction in deformity relapse.

Fronto-Orbital Distraction for Unicoronal Craniosynostosis: A Comprehensive Surgical Workflow From Patient Selection to Vector Design

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Background: Unicoronal craniosynostosis produces a complex three-dimensional deformity that extends well beyond the frontal region, involving the orbit, nasal pyramid, and skull base. Conventional fronto-orbital advancement and reshaping (FOAR) is the traditional gold-standard technique but is limited by high blood loss, restricted advancement distance, and relapse. Fronto-orbital distraction osteogenesis (FODO) has emerged as a less invasive alternative. The authors describe a comprehensive treatment workflow for FODO, from patient selection to distraction vector design, and share their initial experience at a newly established craniofacial center in Viet Nam.

Methods: The authors describe the complete treatment protocol for fronto-orbital distraction osteogenesis in a patient with unicoronal craniosynostosis, including patient selection criteria, clinical and three-dimensional computed tomography evaluation, three-dimensional-printed model-based preoperative planning, osteotomy design, distractor placement, vector selection, and the postoperative distraction protocol. The workflow is illustrated with a representative case.

Results: A 6-month-old male infant with right unicoronal craniosynostosis underwent fronto-orbital distraction using a single distractor mounted at the parietal-frontal junction, with a vector directed anteriorly and inferiorly at approximately 15 degrees to the horizontal plane. Intraoperative blood loss was 135 mL, and a total distraction distance of 20 mm was achieved over 30 days, followed by a 4-month consolidation period. At 6-month follow-up, marked improvement in fronto-temporal symmetry, orbital and nasal deformity, and overall craniofacial contour was observed both clinically and on computed tomography, with solid bony consolidation and no complications.

Conclusions: Fronto-orbital distraction osteogenesis is a safe and effective alternative to conventional fronto-orbital advancement for the treatment of unicoronal craniosynostosis, offering reduced blood loss, greater bony advancement, and durable clinical and radiographic correction. The authors' experience illustrates a complete and reproducible treatment workflow that is applicable even at a newly established craniofacial center with limited resources.

Beyond Perioperative Outcomes: Endoscopic-Assisted Suturectomy versus Open Fronto-Orbital Advancement for Non-Syndromic Unicoronal Craniosynostosis: A Systematic Review and Meta-Analysis of Facial Symmetry, Aesthetic, and Functional Outcomes

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Introduction: Although endoscopic-assisted suturectomy (ESC) consistently demonstrates perioperative advantages over fronto-orbital advancement (FOA), whether these benefits translate into superior long-term morphometric, ophthalmological, functional, and aesthetic outcomes remains uncertain. No previous meta-analysis has comprehensively synthesized these patient-centered outcomes.

Methods: Following PRISMA 2020 guidelines (PROSPERO CRD420261459002), PubMed, Scopus, ScienceDirect, Cochrane, and EBSCO were searched for comparative studies of primary ESC versus FOA in non-syndromic UCS. Of 1,738 identified records, eight studies comprising 541 patients met the eligibility criteria. Pooled mean differences (MDs), standardized mean differences (SMDs), and risk ratios (RRs) with 95% confidence intervals (CIs) were calculated using fixed- or random-effects models. Outcomes were synthesized across perioperative, morphometric, ophthalmological, functional, and aesthetic domains. Risk of bias was assessed using ROBINS-I, and certainty of evidence was evaluated using GRADE.

Results: ESC conferred significant perioperative advantages: reduced operative time (MD -186 min; 95% CI -215 to -158; $P < 0.001$), blood loss (MD -211 mL; $P < 0.001$), hospital stay (MD -2.4 days; $P < 0.001$), and blood transfusion (0% vs 88%; $P < 0.001$). Pooled morphometric analysis demonstrated no significant difference in postoperative craniofacial symmetry for orbital width (MD -0.26%; $P = 0.82$; $I^2 = 22\%$), nasal deviation (MD -0.34°; $P = 0.14$; $I^2 = 0\%$), or midface asymmetry (SMD -0.14; $P = 0.57$; $I^2 = 0\%$). However, FOA carried significantly higher risks of moderate-to-severe V-pattern strabismus (RR 1.72; 95% CI 1.08–2.74; $P = 0.02$), strabismus surgery (RR 2.00; 95% CI 1.14–3.51; $P = 0.007$), amblyopia (RR 1.72; $P = 0.02$), and surgical revision (RR 4.79; 95% CI 2.27–10.13; $P < 0.001$). Temporal hollowing occurred exclusively following FOA (26% vs 0%; $P < 0.001$). Exploratory evidence from a single cohort suggested preserved cerebral lateralization, assessed by hand preference, following ESC (adjusted OR 0.12; $P = 0.045$).

Conclusions: ESC achieved craniofacial symmetry comparable to FOA while providing superior perioperative, ophthalmological, and aesthetic outcomes, with exploratory evidence suggesting additional neurofunctional benefits. Surgical decision-making for UCS should incorporate long-term functional and aesthetic outcomes alongside perioperative metrics.

Risk Factors for Postoperative Infection Following Frontofacial Monobloc Advancement

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Introduction: Frontofacial monobloc advancement (FFMBA) carries a well-recognised risk of postoperative infection owing to the communication created between the nasal cavity and the anterior cranial base. Risk factors specific to this procedure have not been systematically characterised. This exploratory study aimed to examine preoperative factors associated with infection following FFMBA.

Methods: We retrospectively reviewed 26 consecutive patients who underwent FFMBA at a single craniofacial centre between 2015 and 2025. Six prespecified candidate variables were examined in univariable analyses: sex, operative time, intraoperative blood loss, tracheotomy, ventriculoperitoneal (VP) shunt, and institution of first cranial vault surgery.

Results: Postoperative infection occurred in 6 of 26 patients (23.1%). Time to infection ranged from 1 day to 4 years, with five cases within one month and one late case at four years in a VP-shunted patient consistent with shunt-associated peritonitis. VP shunt status was the only variable showing a statistically significant association with postoperative infection (OR 45.00, 95% CI 3.35–604.02; $P=0.002$): five of seven VP-shunted patients (71.4%) developed infection compared with one of 19 non-shunted patients (5.3%). All seven VP-shunted patients had received their VP shunt at another institution prior to referral. No other candidate variable reached nominal statistical significance.

Conclusions: In this exploratory series, VP shunt status was the only variable showing a statistically significant association with postoperative infection following FFMBA. The estimate was highly imprecise, and the finding should be regarded as hypothesis-generating. The proposed mechanism persistent extradural dead space related to impaired brain expansion after advancement remains speculative and requires prospective evaluation. Because all shunts had been placed elsewhere before referral, residual confounding related to referral patterns and treatment sequencing cannot be excluded. These findings support multidisciplinary planning and long-term surveillance in VP-shunted patients undergoing FFMBA.

Management of Midface Hypoplasia Using Modified Le Fort III Distraction Osteogenesis: A Case Report

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Introduction: Midface hypoplasia associated with suspected Crouzon syndrome can result in severe functional and esthetic problems, including exorbitism, malocclusion, and facial concavity. Advancement of the midface using modified Le Fort III distraction osteogenesis provides gradual skeletal correction while minimizing soft tissue tension and improving long-term stability.

Methods: A 19-year-old Thai male presented with bilateral proptosis and malocclusion. Clinical and radiographic evaluations were consistent with midface hypoplasia, and Crouzon syndrome was suspected. Considering the severity of the deformity, a staged surgical approach was planned. The patient underwent modified Le Fort III distraction osteogenesis for midface advancement, followed by removal of the distraction device after completion of consolidation.

Results: Progressive advancement of the midface resulted in improved orbital support, correction of facial concavity, and restoration of functional occlusion. After removal of the distraction device, the patient demonstrated a well-balanced facial profile with satisfactory facial symmetry and stable skeletal outcomes. Both functional and esthetic improvements were achieved without major complications.

Conclusion: Modified Le Fort III distraction osteogenesis is an effective treatment option for severe midface hypoplasia in patients with suspected Crouzon syndrome. This technique allows gradual advancement of the midface, improves facial profile and occlusal relationship, and provides favorable functional and esthetic outcomes.

Box Osteotomy for Tessier Clefts: Outcomes, Pitfalls and Lessons Learned

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Introduction: Tessier craniofacial clefts are rare congenital anomalies, occurring in approximately 1.4 to 4.9 per 100,000 live births, with midline clefts (Tessier 0/14) posing major structural and aesthetic challenges. Surgical timing presents a distinct clinical dilemma: balancing the need to mitigate psychosocial impact and optimize soft-tissue adaptation against the risk of disrupting facial growth centres. This case series evaluates the clinical outcomes, pitfalls, and critical technical lessons learned using the box osteotomy technique for midline cleft correction.

Materials & Methods: A clinical review of 3 patients undergoing median box osteotomy for midline Tessier clefts was conducted. The technique utilized a bicoronal approach for exposure of the anterior cranium and orbits. A central rectangular osteotomy was executed to excise the redundant interorbital bone, followed by orbital segment medialization and fixation. Soft tissue incisions were strategically planned to correct current defects while preserving tissue planes for anticipated future revisions.

Result(s): Surgical correction yielded improvement in facial symmetry and normalized intercanthal distances across the series. Major clinical pitfalls encountered included managing soft-tissue re-draping over reduced bone volumes, entropion and oculo-cardiac reflex. Strategic initial incision design successfully avoided surgical fields needed for secondary procedures and preserving anatomical landmarks for later reconstructive stages.

Conclusion: Box osteotomy is an effective approach for severe midline Tessier cleft deformities. Key lessons emphasize that navigating surgical timing dilemmas and anticipating operative pitfalls specifically through forward-thinking soft-tissue incision planning are essential to provide immediate structural balance while safeguarding the framework for necessary future surgical interventions.

Perioperative Nursing Care for Orbital Distance Widening Syndrome Combined with Maxillofacial Developmental Deformities Treated with Bipartition Osteotomy

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Purpose: To explore the perioperative nursing care for surgery combining Bipartition osteotomy with cranial remodeling in patients with telecanthus accompanied by midface hypoplasia.

Method: A retrospective analysis of the clinical data of two children with orbital distance widening syndrome combined with maxillofacial developmental deformities admitted to Nanjing Medical University Affiliated Children's Hospital in January and June 2025. One male case and one female case, aged 5 and 4 years respectively. Preoperatively, full-head CT data of the child was collected, three-dimensional reconstruction was performed, surgical planning was conducted, and surgical simulation was carried out to determine the amount of bone to be removed and the angle of the V-shaped osteotomy line during surgery. Postoperative follow-up involves observing the child's recovery status, occurrence of complications, as well as improvements in eye movement, visual acuity, olfaction, nasal morphology, bony interorbital distance (IOD), and the appearance of orbital widening.

Results: For 2 pediatric patients, adequate preoperative preparation was conducted, including enhanced nurse-patient communication, psychological care, and refinement of the surgical plan. Postoperatively, closely monitor the patient's consciousness, pupils, and vital signs, and enhance observation of intracranial pressure. Both pediatric cases exhibited mild cerebrospinal fluid leakage postoperatively, which resolved spontaneously after 5 days and 8 days of supine positioning without a pillow, respectively. After 4 to 11 months of follow-up, eye movement was normal, vision was normal, there was no diplopia, convergence function was normal, and olfaction was normal in 2 children. The reconstructed nasal morphology is acceptable, and the appearance of widened orbital distance has been effectively corrected.

Conclusion: Bipartition osteotomy is an effective treatment for excessive midfacial width. Internal rotation fixation of bilateral cranio-orbital-zygomatic-maxillary segments can reduce the high-arched palate and level the maxillary occlusal plane. Through perioperative care, close monitoring for the complications and prompt implementation of effective measures are crucial to ensuring successful surgery in pediatric patients.

Computer-Assisted Surgery for Extensive Fibrous Dysplasia Involving Fronto-Orbital Area: Surgical Planning, Intraoperative Guides and Reconstruction Design

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Introduction: Fibrous Dysplasia (FD) is a benign skeletal disorder where fibrous tissue replaces normal bone tissue. In the craniofacial area, it presents as a characteristic "Ground-glass" opacity on medical images. Due to the high recurrence rate of conservative contouring, a complete resection, if possible, with proper reconstruction may be preferred.

Here we present our experience with computer-assisted technologies in the surgical management of extensive fronto-orbital fibrous dysplasia.

Materials & Methods: A 10-year-old girl with a 1-year history of left frontal bulging was diagnosed with fibrous dysplasia involving the frontal bone, supraorbital rim, and optic canal. Surgical planning was performed with computer-aided design and computer-aided manufacturing (CAD/CAM) technology to define resection margins, design cutting guides, and fabricate a patient-specific polyetheretherketone (PEEK) implant. Tumor excision and optic nerve decompression were carried out under intraoperative navigation guidance, followed by reconstruction with the customized implant.

Result: The patient recovered uneventfully and was discharged on postoperative day 6. Follow-up demonstrated a natural frontal contour with seamless integration of the implant. Computed tomography (CT) follow-up after 3 month confirm complete tumor excision, and improvement in visual acuity were also been reported. Both the patient and her family were satisfied with the outcome.

Conclusion: By providing accurate planning and predictable outcomes, computer-assisted techniques can effectively assist in complex craniofacial surgery. However, close collaboration between surgeons and engineers is essential for ultimate success.

Skull osteomyelitis developed on the frontal bone and subsequent reconstruction strategies

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Introduction: Frontal bone osteomyelitis associated with soft-tissue infection is rare but may lead to serious complications, including intracranial extension and craniofacial deformity. Although the infectious origin is commonly related to frontal sinusitis, localization of the primary source can be difficult. This study aimed to present 2 different surgical strategies for infection eradication and reconstruction in frontal bone osteomyelitis.

Materials & Methods: Two patients with recurrent infection of the frontal region were retrospectively reviewed. Both patients presented with scarred and fibrotic changes of the skin and soft tissue caused by repeated inflammation and infection. Computed tomography was performed to evaluate bony involvement, and magnetic resonance imaging was additionally reviewed to confirm osteomyelitis and assess disease extent. Surgical management through a coronal approach included radical debridement of infected hard and soft tissues, microbiologic culture during eradication, and frontal bone reconstruction. One patient underwent single-stage infection eradication and reconstruction using an autologous bone graft. The other underwent early eradication followed by delayed reconstruction using titanium mesh.

Results: No recurrence of infection was observed during 6 months of follow-up. Both patients achieved stable wound healing and were subjectively satisfied with the restored forehead contour. No major postoperative complications occurred. Only minor scalp numbness and paresthesia were reported.

Conclusion: Frontal bone osteomyelitis is uncommon but potentially severe. Early surgical intervention with radical eradication of infected tissue is essential to prevent disease progression. Reconstruction planning is also critical for restoring forehead contour and should be individualized according to the extent of infection and soft-tissue condition. Single-stage autologous bone grafting and staged titanium mesh reconstruction may both be effective options in selected patients.

Clinical Efficacy of MDO Combined with CGF in Pierre Robin Sequence: A Retrospective Comparative Study

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Background: Pierre-Robin Sequence (PRS) in neonates is characterized by micrognathia and life threatening airway obstruction. Mandibular distraction osteogenesis (MDO) effectively lengthens the mandible and relieves obstruction, but postoperative bone healing and complications remain concerns. Concentrated growth factor (CGF) has been shown to promote tissue repair and osteogenesis.

Objective: To evaluate whether adjunctive CGF gel improves clinical outcomes in PRS neonates treated with MDO.

Methods: This retrospective comparative study included 100 PRS neonates (2022–2024). The CGF group (n=45) received MDO with CGF gel; the control group (n=55) underwent MDO alone. All patients followed a standardized distraction protocol (5 mm intraoperative lengthening, 5 day latency, 0.8–1.2 mm/day for 10–15 days, distractors removed at 3 months). Outcomes included mandibular lengthening, complications, and bone healing.

Results: All patients achieved 12–18 mm mandibular lengthening, with no mortality or osteonecrosis. The CGF group showed fewer complications: infection (1 vs. 4), screw loosening (0 vs. 2), mandibular retrusion (0 vs. 4), and delayed bone healing (0 vs. 8). The difference in delayed bone healing was statistically significant ($P<0.05$).

Conclusions: CGF augmented MDO significantly reduces complications, particularly delayed bone healing, and enhances surgical stability. It appears to be a safe and effective adjunctive strategy for managing PRS in neonates.

Modified Mandibular Advancement Surgery for Facial Aesthetic Improvement and Upper Airway Functional Enhancement in Patients with Mandibular Hypoplasia: A Retrospective Case Series

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Background: Mandibular hypoplasia is associated with facial aesthetic disharmony, malocclusion, and compromised upper airway function, including obstructive sleep apnea (OSA). Although maxillomandibular advancement (MMA) is effective for craniofacial OSA, excessive maxillary advancement may adversely affect facial harmony, particularly in Asian patients. This study evaluated the clinical outcomes of digital-assisted modified mandibular advancement surgery (MMAS) combining anterior mandibular segmental subapical osteotomy (AMSO) and bilateral sagittal split ramus osteotomy (BSSRO) in patients with mandibular hypoplasia and OSA.

Methods: This retrospective case series included 10 patients with mandibular hypoplasia and polysomnography-confirmed OSA who underwent MMAS between September 2019 and November 2024. Three-dimensional reconstruction, virtual surgical planning, and patient-specific surgical guides were used for surgical design and execution. Postoperative skeletal changes, upper airway volume, sleep-related parameters, and patient-reported facial aesthetic outcomes were evaluated at 3 days, 1 month, and 1 year after surgery.

Results: All patients completed 1-year follow-up without major complications. The mean sagittal advancement of the Pogonion was 8.27 mm at 1 year postoperatively, with significant sagittal and vertical skeletal changes while transverse stability was maintained. Upper airway volume increased significantly from $15,729.30 \pm 5,624.07 \text{ mm}^3$ preoperatively to $20,923.00 \pm 6,470.07 \text{ mm}^3$ at 1 year ($P < 0.001$). The apnea hypopnea index decreased from 16.89 ± 6.01 to 3.11 ± 2.74 events/h ($P < 0.001$), and lowest oxygen saturation improved from $85.40 \pm 2.80\%$ to $93.90 \pm 1.52\%$ ($P < 0.001$). FACE-Q Appearance of the Face scores increased from 38.80 ± 6.27 to 68.70 ± 6.36 ($P < 0.001$).

Conclusion: Digital-assisted MMAS achieved controlled mandibular advancement with significant improvement in upper airway function and patient-reported facial aesthetic satisfaction. This approach may provide a potential treatment option for selected patients with mandibular hypoplasia requiring simultaneous functional and aesthetic correction.

Commissuroplasty for Microstomia Associated with Agnathia: A Case Report

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Background: Agnathia is an exceedingly rare congenital anomaly caused by a defect in the development of the first branchial arch. It is characterized by mandibular deficiency, often accompanied by microstomia, and frequently presents with life-threatening upper airway obstruction immediately after birth. We report a male infant with agnathia and severe microstomia who underwent staged commissuroplasty and achieved relatively good outcomes. Commissuroplasty may be a useful surgical option for improving oral hygiene, oral function, and facial appearance in patients with microstomia associated with agnathia.

Methods: The patient was a male infant diagnosed at birth with agnathia and severe microstomia. Because of severe upper airway obstruction, a tracheostomy was performed immediately after birth to secure the airway. He was referred to our department for treatment of agnathia and microstomia. Clinical findings and imaging studies revealed severe microstomia and mandibular absence, resulting in a characteristic bird-like facies. We performed two commissuroplasties, one during the neonatal period and the other at 5 years of age, for oral hygiene management and to accommodate craniofacial growth and development.

Result: The postoperative course was uneventful, with no major complications. The patient demonstrated clinical improvement, with favorable morphological outcomes, and the operations substantially facilitated oral hygiene.

Conclusion: Prenatal diagnosis of agnathia is not always straightforward, and postnatal prognosis largely depends on the successful establishment and maintenance of a secure airway. Recent advances in perinatal imaging may provide greater opportunities for early diagnosis and planned therapeutic intervention. In the long term, growth-adapted surgical strategies, including mandibular reconstruction, should be considered. This case demonstrates that staged surgical treatment of microstomia can provide both morphological and functional benefits.

Mandibular Angle Osteotomy via Intraoral Approach: A 15-Year Experience from a Single Plastic Surgery Center in China

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Introduction: Mandibular angle osteotomy (MAO) via an intraoral approach is a common aesthetic procedure for square facial contours in Asian populations. However, large-scale, long-term studies examining temporal trends in patient demographics and surgical outcomes remain limited. This retrospective study evaluates demographic shifts, complication rates, and patient satisfaction across 15 years of clinical practice.

Methods: A total of 3,501 MAO cases performed between January 2008 and December 2022 were reviewed. Patients were divided into three cohorts: Group A (2008–2012), Group B (2013–2017), and Group C (2018–2022). Demographic data, complication rates, and patient-reported satisfaction scores (5-point scale) were analyzed and compared across groups.

Results: Mean patient age increased significantly over time (Group A: 27.38 ± 6.94 ; Group B: 27.41 ± 6.42 ; Group C: 28.57 ± 6.65 years), with Group C significantly older than Group B ($P < 0.001$). While females predominated across all groups, male representation increased notably between Groups A and B ($P = 0.039$). Complication rates declined substantially from 13.05% (114 cases) in Group A to 5.54% (66 cases) in Group B, and further to 2.50% (36 cases) in Group C. Postoperative satisfaction scores improved progressively (Group A: 3.32 ± 0.64 ; Group B: 3.86 ± 0.54 ; Group C: 4.42 ± 0.58), with all differences statistically significant ($P < 0.05$).

Conclusions: Demand for MAO has steadily risen, with expanding indications encompassing older and male patients. Concurrent declines in complication rates and improvements in satisfaction reflect advancements in surgical techniques and digital technologies, which have enabled safer, more precise procedures and superior aesthetic outcomes across diverse patient populations. These findings offer evidence-based guidance for surgical planning and clinical decision-making.

Combined Partial Coronoidectomy and Reduction Malarplasty versus Reduction Malarplasty Alone in Patients with Elongated Coronoid Processes: A Comparative Retrospective Study

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Introduction: Reduction malarplasty is a common procedure for midface contouring in Asian populations. However, patients with elongated coronoid processes face an increased risk of postoperative mouth opening restriction. This study aims to evaluate whether combining partial coronoidectomy with reduction malarplasty yields superior outcomes compared to malarplasty alone in this specific patient population.

Methods: A retrospective analysis was conducted on 54 patients (2019–2024) with radiologically confirmed elongated coronoid processes. Patients were divided into two groups: Group A (n=27) underwent L-shaped reduction malarplasty combined with partial coronoidectomy, while Group B (n=27) received L-shaped reduction malarplasty alone. All procedures were performed by the same senior surgeon. Surgical outcomes were evaluated through CBCT imaging (preoperative, 7-day, and 6-month postoperative), skeletal stability assessed by root mean square error (RMSE) analysis using Mimics and Geomagic software, complication rates, and FACE-Q satisfaction scores.

Results: Group A demonstrated a superior safety profile with no serious complications observed. In contrast, Group B experienced seven complications, including nonunion (n=3), mouth opening restriction (n=2), facial asymmetry (n=1), and microplate fracture (n=1). RMSE analysis revealed significantly better skeletal stability in Group A ($t(52) = 2.68, P < 0.05$). While both groups showed improvement in FACE-Q scores postoperatively, Group A reported significantly higher levels of patient satisfaction.

Conclusions: For patients with elongated coronoid processes, the combination of partial coronoidectomy with reduction malarplasty significantly enhances skeletal stability, reduces complication rates, and improves patient satisfaction compared to malarplasty alone. This integrated surgical approach provides a superior treatment strategy, optimizing both functional and aesthetic outcomes in this specific patient population.

Frontal Bone Setback for Facial Feminization: Clinical Advantages and Practical guidelines.

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Background: Forehead contouring is a critical component of facial feminization surgery. Frontal shaving is commonly employed to address mild frontal bossing; however, its effectiveness may be constrained by cortical bone thickness and the presence of the frontal sinus. In patients with significant supraorbital prominence or a pronounced anterior table of the frontal sinus, frontal bone setback may offer a more substantial skeletal modification.

Methods: A retrospective review was conducted of seven consecutive patients who underwent frontal bone setback as part of facial feminization. Preoperative facial morphology, degree of frontal bossing, and frontal sinus anatomy were evaluated through clinical examination and computed tomography. The setback procedure included osteotomy of the anterior frontal bone, posterior repositioning, and contour refinement of the adjacent frontal and supraorbital regions. Operative findings, postoperative contour outcomes, complications, and the need for secondary procedures were reviewed.

Results: Compared with the inherent limitations of shaving alone, frontal bone setback enabled more extensive correction in patients with pronounced skeletal prominence and prominent frontal sinus anatomy. No major complications, such as cerebrospinal fluid leakage, frontal sinus infection, significant contour irregularity, hardware-related issues, or the need for reoperation, were observed.

Conclusion: Frontal bone setback may provide a more comprehensive and anatomically appropriate solution for patients with severe frontal bossing, prominent supraorbital ridges, or limitations imposed by frontal sinus anatomy. Thus, preoperative evaluation of frontal sinus anatomy and careful patient selection are essential in determining the most appropriate surgical approach for facial feminization.

Intraoperative Bradycardia During Endoscopic Brow Lift: Recognition of Oculocardiac Reflex

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Background: The oculocardiac reflex (OCR), a trigeminovagal reflex characterized by sudden bradycardia during periocular manipulation, is well recognized in ophthalmic and orbital surgery. However, its occurrence during aesthetic facial procedures, particularly endoscopic brow lift, has rarely been reported.

Objective: To describe a case of reproducible intraoperative oculocardiac reflex during endoscopic brow lift and to discuss its clinical recognition, underlying mechanism, and implications for surgical and anesthetic management.

Methods: We present a case of a patient undergoing endoscopic brow lift under general anesthesia who developed profound intraoperative bradycardia during supraorbital tissue traction and forehead fixation. Intraoperative events, anesthetic management, and hemodynamic responses were reviewed. A literature review on the oculocardiac reflex in craniofacial and periocular surgery was also performed.

Results: Profound bradycardia occurred repeatedly during supraorbital tissue traction and sustained forehead suspension, with the heart rate returning promptly toward baseline following release of traction. A subsequent episode required intravenous atropine administration, resulting in rapid recovery of normal heart rate. The reproducible temporal association between surgical manipulation and the hemodynamic changes strongly supported activation of the trigeminovagal (oculocardiac) reflex.

Conclusion: Although uncommon, the oculocardiac reflex can occur during endoscopic brow lift as a consequence of supraorbital nerve stimulation. Early recognition of this reflex, immediate release of surgical traction, and effective communication between the surgeon and anesthesiologist are essential to prevent potentially serious hemodynamic complications. Increased awareness of this phenomenon may improve patient safety during periocular aesthetic surgery.

A New Paradigm to Correct Hemifacial Atrophy in a Child with Parry–Romberg Syndrome using Dermofat Graft and 3D Digital Prefabricated Polymethyl Methacrylate Implant

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Introduction: Parry–Romberg syndrome (PRS), or acquired progressive hemifacial atrophy, is a rare disorder characterized by unilateral, slow, and progressive atrophy affecting both soft tissues and skeletal structures. Surgery is challenging due to its progression with an extensive variability in onset and stabilization time, mostly occurring during growth resulting in severe asymmetry. This case report aims to introduce an innovative, dual-modality surgical approach for managing PRS combining dermofat graft and 3D digital prefabricated polymethyl methacrylate (PMMA) implant to restore facial symmetry and harmony.

Methods: A 13-year-old female patient presented with a history of progressive, right hemifacial atrophy with severe facial asymmetry. To address this two-dimensional deficits, initially the patient underwent facial soft tissue augmentation using dermofat grafts to her cheek and coup de sabre lesion. 2 years later, she still manifested significant facial asymmetry due to her skeletal deficit. Guided by virtual surgical planning, the patient underwent midface augmentation using prefabricated PMMA implant to achieve three dimensional projection facial contour and symmetrical result.

Results: 2 years postoperatively, the patient showed significant facial symmetry. The dermofat graft proved to be a highly reliable soft tissue substitute demonstrating superior volume retention and natural contouring. The customized implant provided a stable structural framework without signs of infection, displacement or extrusion. This innovative combination of procedures effectively allowed optimal volume restoration, eliminating the need for multiple grafting sessions. It also provided a more feasible alternative compared to a free tissue transfer considering the patient was still in the developmental phase. The final outcome yielded substantial aesthetic restoration and high patient satisfaction.

Conclusions: The combination of a dermofat graft and a prefabricated PMMA implant provided a comprehensive surgical management for PRS. By addressing both soft tissue and skeletal atrophy, the hemifacial atrophy was adequately corrected, establishing a new paradigm for managing acquired progressive hemifacial atrophy.

A Systematic Review and Meta-Analysis of Dangling Protocols for Lower Limb Free Flap Surgery

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Introduction: Dangling (graduated limb dependency) remains widely practised after lower limb free flap reconstruction, though protocols vary, and its clinical benefit is uncertain. This systematic review and meta-analysis compared early, late, and no-dangling strategies. The primary outcomes were flap survival and secondary outcomes, including complications (wound dehiscence, infection, flap necrosis), return to the theatre, and length of hospital stay.

Methods: The authors systematically searched Medline, Embase, Cochrane Library, ClinicalTrials.gov, EU Clinical Trials Register, and ISRCTN (inception to March 2025) for clinical studies on lower extremity free tissue transfer with a defined dangling protocol or unrestricted mobilisation. Two reviewers independently screened the studies, extracted data (including patient/injury details, flap type, protocol, and outcomes), and assessed the risk of bias. Due to heterogeneity, single-arm meta-analyses of flap success and subgroup analyses by age and dangling strategy (early, late, or no-dangling) were performed using random-effects models.

Results: Ten studies were included. Pooled flap survival was high (about 96–97%) with no significant differences between early, late, or no-dangling protocols. Subgroup analyses by age also revealed no meaningful differences. Early dangling or unrestricted mobilisation did not increase complications and often meant shorter hospital stays. Evidence quality was moderate, with some risk of bias.

Conclusion: Current evidence shows no clinical advantage to traditional dangling protocols. No-dangling or very early, brief dependency within structured monitoring or ERAS pathways appears safe, supports earlier discharge, and may reduce hospital-acquired risks and healthcare costs. Further multicentre trials embedded in standardised ERAS frameworks are warranted.

Arterial-Only Versus Arterial-and-Venous Anastomosis in Distal Digital Replantation: A Systematic Review and Meta-Analysis

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Introduction: Venous outflow management remains the principal technical challenge in distal digital replantation. When suitable veins are unavailable at the Tamai Zone II level, artery-only (AO) replantation with adjunctive external drainage is often used instead of arterial-and-venous (AV) repair. Despite extensive single-institution experience, no meta-analysis has quantitatively compared outcomes.

Objective: To compare AO and AV distal digital replantation regarding digit survival, venous congestion, and postoperative drainage requirements, and to evaluate whether the number of veins anastomosed influences survival.

Methods: Following PRISMA 2020 guidelines, we searched PubMed, Scopus, EBSCO, ScienceDirect, and SAGE from inception through April 2026 (PROSPERO CRD420261420360) for comparative studies of AO versus AV replantation at or distal to the DIP joint. Risk of bias was assessed with ROBINS-I and evidence certainty with GRADE; pooled estimates used DerSimonian-Laird random-effects models.

Results: Nineteen studies (2,353 digits; 1,441 AV, 912 AO) from nine countries were included. AV replantation showed significantly higher digit survival (OR 3.75; 95% CI 2.72–5.15; $p < 0.0001$; $I^2=0\%$), lower venous congestion (RR 0.31; 95% CI 0.19–0.52; $p < 0.0001$; $I^2=38\%$), and fewer drainage interventions (RR 0.47; 95% CI 0.34–0.65; $p < 0.0001$; $I^2=0\%$). Multiple venous anastomoses conferred additional survival benefit over single-vein repair (OR 3.50; 95% CI 2.02–6.07; $I^2=6\%$). Zone-stratified analysis confirmed AV superiority in Tamai Zone I (OR 3.11; 95% CI 1.70–5.68) and Zone II (OR 5.77; 95% CI 3.12–10.65), each with zero heterogeneity. Leave-one-out sensitivity analyses were stable across primary outcomes, and Egger's test excluded publication bias ($p = 0.945$). GRADE certainty was moderate for survival and venous congestion.

Conclusion: Venous anastomosis substantially improves digit survival, reduces congestion, and lowers postoperative salvage burden in distal replantation, with a dose-response benefit favouring multiple venous repairs. These findings support prioritising venous repair whenever technically feasible in distal replantation.

Flap width and thickness for achieving desirable luminal diameter in pedicled anterolateral thigh flap phalloplasty: A fresh cadaveric study

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Introduction: Traditional planning for anterolateral thigh (ALT) flap phalloplasty uses a geometric formula to estimate flap width, but clinical outcomes often vary due to tissue thickness.

Objective: To determine the appropriate equation for flap width to achieve a neophallus internal diameter (ID) of ≥ 3 cm and identify the anatomical location of maximal flap thickness.

Methods: Fourteen fresh female cadaveric ALT flaps were studied. Subcutaneous thickness was measured at nine points using ultrasound (US) and calipers. Flap width was calculated using the equation: $\text{Width} = \pi(\text{Thickness} + \text{ID})$. After tubularization, the achieved ID was measured using cylindrical gauges.

Results: Success in achieving $\text{ID} \geq 3$ cm was 50% (7/14 cases). There were no statistically significant differences in age, BMI, or flap thickness between the success and failure groups ($p > 0.05$). The middle-lateral region was the most common site of maximal thickness. US measurements strongly correlated with caliper measurements ($r = 0.777$, $p = 0.001$). The geometric equation worked best when maximal thickness was 2–3 cm and calculated width was ≥ 20 cm.

Conclusion: The geometric equation is not universally applicable but remains valid for flaps with thickness between 2–3 cm. Preoperative US assessment at the middle-lateral thigh is recommended for planning.

Use of prefabricated fibula flaps for the occlusion driven reconstruction of complex maxillofacial defects: 27 years of experience

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Introduction: The use of free vascularized free flaps for the reconstruction of extended defects is nowadays the standard procedure for the reconstruction of acquired maxillary and mandibular defects. Correct occlusion, adequate reconstruction of soft tissue, correct positioning of the flap within the defect and immediate functional rehabilitation are factors that decide about the level of success. 3-D and virtual planning determine the new occlusion, the extension of the prosthetics, the position of dental implants, the desired shape of the osseous flap and the amount of necessary soft tissue.

Materials and methods: Between January 1999 and July 2026 we treated 85 patients using prefabricated fibula flaps in combination with 316 dental implants. 38 maxillary and 47 mandibular defects have been reconstructed. In a first surgery the implants and split skin graft have been placed at the fibula. In a second surgery six weeks later the vascularized fibula-implant-prosthetic complex has been used to reconstruct the defects.

Results: We had 6 flap failures and lost 34 implants. All patients had immediate occlusion driven reconstructions using fixed prosthetics. Especially in patients with radio-osteonecrosis the vascularized fibula flap could successfully reconstruct these defects.

Conclusion: Prefabricated fibula flap is a standardized and well-established technique with high success rates and patients who are extremely satisfied and have benefited greatly from this operation.

Tongue Morphometry for Flap Design and Template Optimization in Neo-Tongue Reconstruction: A Cadaveric Study

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Introduction: Neo-tongue reconstruction for tongue cancer is regarded as a major and complex operation. Despite advances in microsurgical techniques, flap configuration and inset remain challenging. Numerous flap designs have been described; however, there is limited information on tongue dimensions and thickness. This cadaveric study aimed to evaluate tongue dimensions and thickness, examine their correlation with patient characteristics, and develop a practical anatomical template to guide neo-tongue reconstruction.

Materials and Methods: This study included 40 cadavers. Tongue dimensions (width, length, and volume) and oral cavity measurements were recorded and analyzed for correlations with age, sex, body weight, height, and BMI. The tongues were subsequently sectioned and flattened into a two-dimensional shape to assess regional thickness. All specimens were photographed and processed using a shape extraction program set at 90% pixel overlap to generate a representative tongue template.

Results: The mean tongue volume was 61.3 ± 13.8 cc, with a width of 5.7 ± 0.7 cm and length of 8.8 ± 1.2 cm. The intermolar width and anteroposterior length were 6.5 ± 1.2 cm and 7.8 ± 1.0 cm, respectively. Tongue volume and length showed significant positive correlations with body weight ($r = 0.35$, $p = 0.026$; $r = 0.48$, $p = 0.002$) and height ($r = 0.37$, $p = 0.019$; $r = 0.40$, $p = 0.010$), while tongue length was negatively correlated with age ($r = -0.46$, $p = 0.003$). A neo-tongue reconstruction template measuring 11×11.25 cm was developed, with recommended thicknesses of 2.5 mm (mucosa), 3.6 mm (tip), 8–12 mm (body), and 8–9 mm (base).

Conclusion: Tongue dimensions, particularly volume and length, correlate with body size (weight and height), while tongue length decreases with age and tongue width varies by gender. These factors should be considered in individualized neo-tongue reconstruction planning.

Oral commissure and pyriform sinus reconstruction of post chemical burns

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Introduction: Burns of the mouth and pharynx are common in both thermal and chemical injuries. Children's chemical burns are typically caused by accidental or intentional ingestion of corrosive substances. Severe damage of oral tissue and aero digestive mucosa will present microstomia ,dysphasia and increased salivation. Reconstruction without plastic surgery could not obtain actually outcome and the recurrence rate was very high. Different to the adults ,children couldn't keep training from the contraction again. Therefore individual plastic surgery and management must be performed, which would obtain great prognosis without any additional training works.

Methods: We designed rectangular flap on the oral commissure and z-flap extended to the oral cavity instead of simple z-flap, which were stitch up regularly. In the pharynx located on the pyriform sinus ,two asymmetric z-mucosa flap were marked in both sides. suture of the flap were not normal. After dissection of the contacted tissue ,the first stitch was between the triangular apex s of the flaps. Tube feeding and anti-scar contracture treatment must be out.

Result: The oral commissures were reconstructed without second contracted. Microstomia were improved dramatically. Dysphasia and increased salivation were corrected.

Conclusion: Rational flaps are very important in correction of chemical burns deformity, which can decrease children hospitalization frequency

Two Dimensional Configuration of Nasal Columella and Vestibular Lining for Nasal Reconstruction: A Computerized Tomography–Based Anatomical Study

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Background: Internal lining restoration is critical for airway patency and structural integrity in complex nasal reconstruction. Current techniques often rely on intraoperative empirical estimation due to a lack of quantitative anatomical data regarding the flattened two-dimensional (2D) configuration of the vestibular lining. This study aimed to analyze three-dimensional (3D) anatomy and derive precise 2D surface area measurements using computed tomography (CT) data.

Methods: Ten adult CT facial scans (20 sides) with no history of nasal trauma or surgery were analyzed. DICOM data were processed using Materialise Mimics and 3-matic software to generate 3D airway molds (negative space) of the nasal vestibule. The lining segment extending 1.5 cm deep from the nostril rim was isolated. A 2D surface area was measured by virtually simulating a white paper tape technique. Descriptive statistics were calculated for total surface area, aspect ratio, and the clinical feasibility of three specific cutting configurations (C1, C2, and C3).

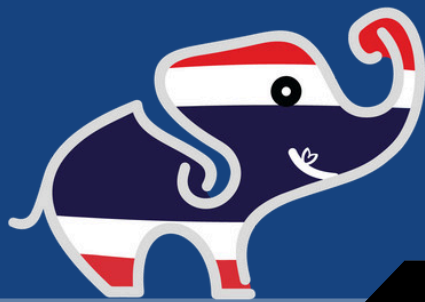
Results: The mean 2D surface area was $13.39 \pm 1.30 \text{ cm}^2$, demonstrating relative bilateral symmetry ($p = 0.142$). Configurations C1 and C2 yielded viable, non-overlapping templates, while C3 resulted in significant tissue overlap in 90% of cases, rendering it surgically impractical. C2 (H-shape) demonstrated superior central alignment with a mean vascular displacement of $0.22 \pm 0.12 \text{ cm}$, compared to $0.88 \pm 0.30 \text{ cm}$ for C1 ($p < 0.001$), representing a 75% reduction in vascular eccentricity.

Conclusion: This study establishes a quantitative anatomical baseline for the nasal vestibular lining, facilitating a shift from empirical estimation to standardized preoperative planning. Both the H-shaped (C2) and Kissing Fox (C1) configurations provide viable templates. The H-shape optimizes pedicle alignment for columellar-centered flaps like the RFFF, while the Kissing Fox configuration facilitates primary donor site closure in SCIP flap designs.

Clinical outcomes of pre-expanded scalp flaps combined with laser hair removal for craniofacial reconstruction: a systematic review and single-arm meta-analysis

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Craniofacial reconstruction remains a complex challenge as it requires restoration of both functional and aesthetic outcomes. Pre-expanded scalp flaps provide excellent vascularity, sufficient tissue availability, and favorable color and texture matching; however, presence of hair-bearing skin at the recipient site may compromise cosmetic results. Laser hair removal has been introduced as an adjunctive procedure to overcome this limitation, but evidence remains limited and scattered. This study aimed to systematically evaluate the clinical outcomes of pre-expanded scalp flaps combined with laser hair removal for craniofacial reconstruction through a systematic review and single-arm meta-analysis. A comprehensive literature search was conducted in PubMed, Scopus, Web of Science, Embase, and Google Scholar following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Methodological quality was assessed using the Joanna Briggs Institute (JBI) Critical Appraisal Checklists. Nine studies met the inclusion criteria for qualitative synthesis, while six studies involving 93 reconstructed flaps were included in the quantitative analysis. The pooled meta-analysis demonstrated a flap survival rate of 96% (95% CI: 87%–99%; $I^2 = 0\%$) and a postoperative complication rate of 10% (95% CI: 6%–15%; $I^2 = 0\%$). Included studies consistently reported favorable aesthetic outcomes, effective reduction of unwanted hair, satisfactory scar quality, and high patient satisfaction following reconstruction. Sensitivity analyses and influence diagnostics confirmed the robustness of the pooled estimates, while funnel plot assessment and Egger's regression test did not indicate statistically significant publication bias, although these findings should be interpreted cautiously because only six studies were available for quantitative synthesis. Overall, evidence suggests that combination of pre-expanded scalp flaps and laser hair removal is a safe and effective reconstructive strategy that provides high flap survival, low complication rates, and improved aesthetic outcomes. However, further prospective multicenter studies using standardized treatment protocols and validated outcome measures are required to strengthen the current evidence.



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Poster presentation

APC 2026 – E-poster presentation

2026 Asia-Pacific Joint Craniofacial Congress | October 28–30, 2026

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Code	Title	Author	Specialty	Category
CP-0004	Pre-Surgical Infant Orthopedic with Digital Nasal Stents and Sequential Alveolar Aligners in Unilateral Complete Cleft Lip and Palate: A Case Report	Pornpat Butpun	Orthodontists	Case report
CP-0005	Modification of Nasoalveolar Molding in a Bilateral Cleft Lip and Palate Patient with a Rotated Premaxilla: A Case Report	Thitirath Joongjai	Orthodontists	Case report
CP-0006	A Novel Turn-Over Upper Helical Cartilage Flap Augmented with Ninth Costal Cartilage Graft for Type I Microtia Reconstruction: A Case Report	Fajar Sartika Hadi	Plastic/Craniofacial Surgeon	Case report
CP-0007	Long-Term Outcomes of Korat Nasoalveolar Molding in a Patient with Complete Unilateral Cleft Lip and Palate: A 16-Year Interdisciplinary Follow-up	Somsri Klachoho	Orthodontists	Case report
CP-0008	Epiphora After Orbital Wall Reconstruction Caused by Migrated Mesh Implant	Junghyun Lee	Plastic/Craniofacial Surgeon	Case report
CP-0009	Postoperative Retrobulbar Hematoma With Irreversible Visual Loss After Orbital Fracture Reconstruction In An Older Patient	Junghyun Lee	Plastic/Craniofacial Surgeon	Case report
CP-0011	Clear Aligner Therapy as Presurgical Orthodontic Preparation for Alveolar Bone Grafting in Bilateral Cleft Lip and Palate: A Case Report	Pran Pitaksanurat	Orthodontists	Case report
CP-0013	Long-term Speech and Resonance Outcomes of Children with Unilateral Cleft Lip and Palate Born During the COVID-19 Pandemic: A Case Series from Northeast Thailand	Natthasart Unasri	Speech-Language Pathologists	Case report
CP-0014	Nasal reconstruction using costal cartilage and paramedian forehead flap in nasomaxillary hypoplasia in Binder's syndrome; a case report	Nurardhilah Vityadewi	Plastic/Craniofacial Surgeon	Case report

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Code	Title	Author	Specialty	Category
CP-0015	LOWER-LID SWITCH FLAP TO MAINTAIN FUNCTION AND AESTHETIC RESULTS OF UPPER EYELID AFTER FULL-THICKNESS WIDE EXCISION OF SQUAMOUS CELL CARCINOMA	Faustine Emanuela	Plastic/Craniofacial Surgeon	Case report
CP-0017	When the Eyelids Heal Together: Two-Lamellar Reconstruction of a Rare Post-Traumatic Medial Canthal Ankyloblepharon	Faustine Emanuela	Plastic/Craniofacial Surgeon	Case report
CP-0018	The Role of Postoperative Nasal Retainer in Achieving Nasal Symmetry after Modified Subunit Cheilonasorraphy: A Case Series	Faustine Emanuela	Plastic/Craniofacial Surgeon	Case report
CP-0019	Less rigid fixation with non - absorbable sutures in sagittal craniosynostosis in single institution experiences (Hospital Tunku Azizah, Kuala Lumpur, Malaysia)	Hamidah Mohd Zainal	Plastic/Craniofacial Surgeon	Case report
CP-0020	Craniosynostosis in East Malaysia: Diagnostic and Surgical Challenges in a Case Series from Regional Tertiary Centre	Fathin alyaa Mohamad farid	Plastic/Craniofacial Surgeon	Case report
CP-0023	Simultaneous Fronto-Orbital Advancement and Le Fort III Distraction in Saethre-Chotzen Syndrome Initially Suspected of Having Carpenter Syndrome	Kahoko Yamada	Plastic/Craniofacial Surgeon	Case report
CP-0027	From Cleft to Contour: Post-operative Nasal Molding Using The PSU Nasal Clip in a Patient with Cleft lip and Alveolus	PANUMAT INTHAMON	Orthodontists	Case report
CP-0028	A Patient With Mild Trigenocephaly and Concomitant Horizontal Constricting Ring of the Skull	Nobuyuki Mitsukawa	Plastic/Craniofacial Surgeon	Case report
CP-0030	First Successful Le Fort III Distraction in a Patient with Beare-Stevenson Syndrome	Nobuyuki Mitsukawa	Plastic/Craniofacial Surgeon	Case report

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Code	Title	Author	Specialty	Category
CP-0031	Orbital Reconstruction Using Dermal Fat Graft After Removal of Magnetic Orbital Prosthesis	Nobuyuki Mitsukawa	Plastic/Craniofacial Surgeon	Case report
CP-0032	Combination of Various Maxillary Distraction Osteogenesis for Patients with Severe Complicated Cleft Maxillary Hypoplasia	Nobuyuki Mitsukawa	Plastic/Craniofacial Surgeon	Case report
CP-0033	A Patient of True Median Cleft Lip with Unilateral Anophthalmia and Morning Glory Syndrome	Nobuyuki Mitsukawa	Plastic/Craniofacial Surgeon	Case report
RO-0047	Mandibular Distraction Osteogenesis Aids in the Growth and Development with Severe Robin sequence in Neonates	YI JI	Pediatrician	Research
RO-0056	Usefulness of the pedicled latissimus dorsi flap for diverse defective wounds developed in the trunk.	Junghyun Lee	Plastic/Craniofacial Surgeon	Research
RO-0066	Donor-Site-Sparing Biomaterial-Based and Tissue-Engineered Grafts versus Iliac Crest Grafting for Secondary Alveolar Cleft Reconstruction: A Systematic Review and Meta-Analysis of Volumetric Stability and Clinical Outcomes	Albertus Andika Wongjaya	Plastic/Craniofacial Surgeon	Research
RO-0077	Cross-Linguistic Nasalance Profiles in Healthy Malaysian Adults: A Comparison Across Malay, Mandarin, and Tamil	Hasherah Mohd Ibrahim	Speech-Language Pathologists	Research
RO-0079	Differentiating Post-Surgical Resonance Disorders in Cleft Palate: Nasalance-Based Relative Measures Combined With Nose-Pinching Diagnostic Approach	Yifei CHEN	Speech-Language Pathologists	Research
RP-0002	A Survey on the Use of Social Media and Instant Messaging in Providing Treatment Information for Cleft Patients: A Single Foundation's Experience	Maritza May Pagan	Other	Research

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Code	Title	Author	Specialty	Category
RP-0004	A Review of Orthodontic Considerations before and after Alveolar Bone Grafting in Patients with Cleft Lip and Palate	Cecile Ammeli Cabrera	Orthodontists	Research
RP-0005	Families' Lived Experiences, Quality of Life, and Health Equity in Childhood Nonsyndromic Clefts in Transboundary Haze Areas: A Hermeneutic Study with Border Health NGOs	Siriporn Sasakul	Other	Research
RP-0006	Clinical guidelines for cleft lip and palate care: a systematic review	Omar Barasain	Plastic/Craniofacial Surgeon	Research
RP-0007	Community-Based Folate Promotion for Preventing Non-Syndromic Cleft Lip and Palate Among High-Risk Mothers in the Thai-Lao-Myanmar Border Region	Siriporn Sasakul	Other	Research
RP-0008	A Standardized Clinical Protocol for Digital Nasal Stents in Patients with Cleft Lip and Palate	Pitchaporn Teacharushatakit	Orthodontists	Research
RP-0009	Duration of Presurgical Orthodontic Preparation for Alveolar Bone Grafting in Unilateral Cleft Lip and Palate: Comparison of Clear Aligner, Removable Appliance, and Quad Helix	Krisadi Phannarus	Orthodontists	Research
RP-0010	An analysis of mandibular characteristics according to biological sex using 3D CT scans in Koreans	Soyeon Jung	Plastic/Craniofacial Surgeon	Research
RP-0011	Reconstruction with bilateral hatchet flaps for medium sized scalp defects.	Junghyun Lee	Plastic/Craniofacial Surgeon	Research
RP-0012	A comparative study of primary palatoplasty techniques for predictive factors of Palatal fistula formation.	Paveena Lawanlakkana	Plastic/Craniofacial Surgeon	Research

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RP-0015	Orthodontic Management Protocols in Orthognathic Surgery for Cleft and Non-Cleft and Their Treatment Outcomes: A Systematic Review	WAN SALBIAH WAN ABDUL RAZAK	Orthodontists	Research
RP-0017	Healthcare Access to Cleft Care in Southeast Asia: A Scoping Review of Barriers and Facilitators	Chloe Shada Nareswari	Other	Research
RP-0019	Early Growth Trajectories in Infants with Cleft Lip and Palate Receiving Digital NAM: A Longitudinal Comparison with WHO Child Growth Standards	Suteera Pradubwong	Nurse	Research
RP-0020	Treatment Outcomes of Comprehensive Care in Patients with Cleft Lip and Palate and Congenital Craniofacial Anomalies: A Retrospective Study	Yupin Paggasang	Nurse	Research
RP-0021	Combined Intraoral Distraction Osteogenesis and Bilateral Sagittal Split Osteotomy Treatment in Cleft Lip and Palate: A Case Report	Jarintorn Kotheeranurak	Orthodontists	Research
RP-0022	TOWARD PRECISION IN MANDIBULAR RECONSTRUCTION: AN UPDATED SYSTEMATIC REVIEW AND META-ANALYSIS OF THREE-DIMENSIONAL VIRTUAL SURGICAL PLANNING VERSUS CONVENTIONAL PLANNING	Albertus Andika Wongjaya	Plastic/Craniofacial Surgeon	Research
RP-0023	A Decade of Cleft Care in Sarawak, Malaysia: A Statewide Registry Review of Cleft Patterns and Surgical Management	Daphne Dewi Stephen	Plastic/Craniofacial Surgeon	Research
RP-0024	Reconnecting Cleft Patients to Care: The Role of Combined Cleft Clinics in Strengthening Multidisciplinary Follow-up Across Sarawak, Malaysia	Daphne Dewi Stephen	Plastic/Craniofacial Surgeon	Research
RP-0025	Alveolar Bone Grafting in Patients with Cleft Lip and Palate: An 11 years Retrospective Review from Sarawak General Hospital	Fathin alyaa Mohamad farid	Plastic/Craniofacial Surgeon	Research

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RP-0027	Three-Dimensional Assessment of Upper Airway Changes After Mandibular Distraction Osteogenesis in Patients With Severe Micrognathia	Kahoko Yamada	Plastic/Craniofacial Surgeon	Research
RP-0029	Survey of chief complaints in patients with cleft lip and/or palate with jaw deformity	Natsuko Uchino	Orthodontists	Research
RP-0032	An Anatomic Investigation of Human Fetal Upper Eyelid	Nobuyuki Mitsukawa	Plastic/Craniofacial Surgeon	Research
RP-0033	Special distraction osteogenesis before bone grafting for alveolar cleft defects to correct maxillary deformities in patients with bilateral cleft lips and palates	Nobuyuki Mitsukawa	Plastic/Craniofacial Surgeon	Research
RP-0034	Evaluation of Alveolar Bone Formation Following Primary Gingivoperiosteoplasty in Patients With Unilateral Complete Cleft Lip and Palate	Madoka Sugiyama	Oral Maxillofacial Surgeon	Research

SOCIAL EVENTS

CONGRESS DINNER



APC 2026 Congress Dinner: Thai Culture Night

Experience the warmth of Thai hospitality and immerse yourself in an evening of rich cultural heritage. Set within the grand Vibhavadee ballroom at Centara Grand Ladprao, this exclusive semi-formal gathering will bring together delegates from around the globe to celebrate, network, and experience the essence of Thailand.



Date: 29 October 2026

Time: 18:00

Venue: Vibhavadee Ballroom

Dress Code: Traditional Thai or Thai
costume

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