International Society of Craniofacial Surgery

ISCFS NEWSLETTER

Volume 2 | Number 4

IN THIS ISSUE:

OCTOBER 2025

MESSAGE FROM THE EDITOR

Dear Colleagues,

I'm still buzzing from the energy of our recent ISCFS Congress in Shanghai. What an extraordinary gathering — four days that reminded us why this community matters. From sunrise case conversations over coffee to standing-room-only plenaries, we saw the very best of craniofacial surgery on display: rigorous science, imaginative problem-solving, and a palpable spirit of collaboration. President Mu and our hosts created the perfect backdrop for honest debate and generous teaching, and the cross-pollination among surgeons, orthodontists, engineers, and scientists felt as dynamic as it was productive. If you returned home with a notebook full of ideas and a renewed sense of purpose, you were not alone!

Moments stand out: lively exchanges about growth-modifying strategies, the expanding role of virtual planning and intraoperative navigation, new data on long-term outcomes that challenge comfortable assumptions, and thoughtful sessions on equity, access, and ethics. The hallway conversations were just as valuable — quick consults, shared "near-miss" stories, and introductions that will turn into multicenter collaborations. We should celebrate not only the science but also the tone: respectful, curious, and relentlessly focused on improving care for patients and families.

With that momentum, I'm delighted to welcome our new Council members. Please join me in congratulating Catherine Lee (orthodontics), whose insights at the orthodontic–surgical interface will sharpen our thinking about timing, growth, and occlusal goals. We also welcome our Co-Vice Presidents, Nivaldo Alonso and Cassio Rapposo do Amaral, leaders whose global perspective and deep clinical experience will strengthen our agenda over the next four years. In addition, we are fortunate to add Mark Urata, Roman Khonsari, and Jong Woo Choi to the Council — colleagues known for thoughtful scholarship, superb surgical judgment, and a commitment to training the next generation. Their voices will help guide our society as we push into new scientific territory and elevate standards around the world. The full Council is listed on page 21 of this newsletter.

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As we turn from a landmark meeting to the day-to-day work of advancing our field, the newsletter remains your forum — a space for sharing techniques, pearls and pitfalls, and lessons learned the hard way. To that end, I'm issuing a call for submissions to our "My Way" series. These concise, practice-anchored pieces have become among our most read and most cited features because they translate evidence and experience into pragmatic steps that any reader can follow (or thoughtfully adapt).

For the upcoming January issue, the focus is: **How I treat late-presenting sagittal craniosynostosis**. This topic sits at the intersection of biology, growth, and judgment, and it provokes spirited discussion every time it appears on a program. We are seeking contributions that lay out your decision-making framework and operative plan with clarity. Consider including:

- Patient selection and imaging: key thresholds, measurements, and growth considerations.
- Operative strategy: step-by-step technique, instrumentation, and intraoperative checkpoints.
- Orthodontic and orthognathic interfaces: when (and how) you coordinate care.
- Complications and revisions: what you've changed over time and why.
- Outcomes: what you measure, when you measure it, and how you counsel families.

Please keep the tone practical. A few labeled images or diagrams and one "what I do differently now" paragraph are especially helpful. We welcome diverse approaches and settings—tertiary centers, resource-limited environments, and everything in between. If you mentor trainees, consider co-authoring with a fellow or resident; these pieces are excellent vehicles for teaching durable habits of surgical thinking.

If you're unsure whether your perspective fits, it probably does. The series thrives when contrasting philosophies appear side by side, each grounded in data and experience. Send proposals or completed drafts to the editorial team, and we'll work with you on length and formatting. As always, please confirm patient consent for any identifiable images.

The deadline for the January issue is Januar 9: 750-1000 words and up to 5 images (optional). Please send your article to: admin@iscfs.org

Thank you for making Shanghai exceptional, for welcoming our new leaders, and for the daily work you do that never makes it to the podium. I look forward to reading — and learning from — your "My Way" submissions on late-presenting sagittal synostosis. Let's keep the conversation going and the bar rising.

With appreciation and momentum,

JESSE TAYLOR
ISCFS Secretary-Treasurer
UNITED STATES

MESSAGE FROM THE MANAGING EDITOR

We apologize for the delay in releasing this issue. With the Congress ending on October 30, our scheduled publication date, we had to wait for some of the related articles and photos. We will be back on target for the January issue, with a copy deadline of January 9. Please consider sending an article of 750-1000 words with up to 5 images to: admin@iscfs.org

Thank you for your understanding.

MESSAGE FROM THE PRESIDENT

Dear Colleagues,

In accordance with the tradition of the ISCFS to rotate our biennial Congresses across the continents, we just finished an interesting meeting in Shanghai, China. Next in line is Europe and it is my great pleasure to invite you all to Rotterdam, the Netherlands for the 22nd Congress from September 7th to 10th in 2027.

The leading theme for this meeting will be team care. We already have a good representation within our society's membership of plastic surgeons, neurosurgeons, maxillofacial surgeons and orthodontists. But true team care also involves active participation by ophthalmologists, ENT surgeons, anesthesiologists, radiologists, clinical geneticists, researchers, psychologists and many others. Our Pre-Congress Symposium will deal with topics that have a shared interest. One such topic is the difficult airway in craniofacial anomalies, ranging from making the correct diagnosis of disturbed breathing, airway evaluation and its management during midface surgery, and evaluating the effect on the child's development.

Our goal is to increase the impact that we can make for our patients and joining forces will deliver this. Hopefully, all your team members will be eager to actively participate in taking this next step. During the Congress, time will be dedicated to ensuring this multidisciplinary input. We will also facilitate plenty of time to meet each other in an informal way to stimulate collaboration among the participants, for instance by organizing a dinner party for all participants as an alternative to the traditional gala dinner.

The inspiring venue of the Congress will be De Doelen, a concert and convention venue in the city center. Originally built in 1934, it was destroyed during the bombardment of Rotterdam in May 1940 at the outset of World War II. Rebuilt in 1966, today it is a recognized national monument and serves as the home of the Rotterdam Philharmonic Orchestra.

Traveling to Rotterdam is very easy. After arriving at Schiphol Airport in Amsterdam, the train from the airport takes you to the Rotterdam city center within 30 minutes. Both the Congress venue and the Congress hotels are within a five-minute walk from the central train station. The city offers you numerous social activities and restaurants of various nationalities, including nine with Michelin stars, to have a wonderful time in Rotterdam.

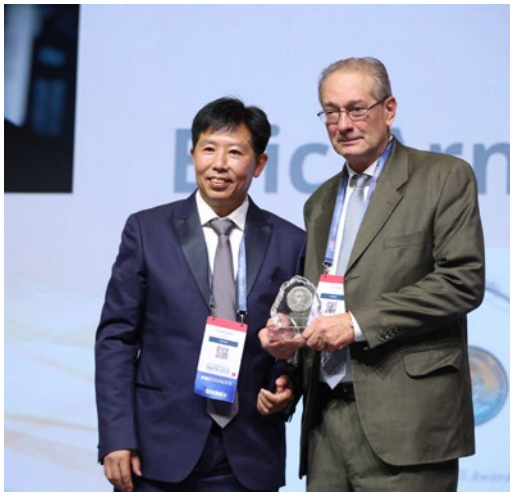
Irene Mathijssen -
on behalf of the entire craniofacial team in Rotterdam

IRENE MATHIJSSEN
ISCFS President
THE NETHERLANDS

"Our goal is to increase the impact that we can make for our patients and joining forces will deliver this.'

21ST ISCFS CONGRESS

PHOTO GALLERY




Paul Tessier 1917 - 2008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ISCFS 2025
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Opening Ceremony


POURQUOI PAS?


Accurate Repositioning of Maxilla
According to the Situations
JW (Jong-Woo) Choi, MD, PhD, MMM
Department of Plastic Surgery
Asan Medical Center
Korea


ASIAN
SESSION

YOUNG SURGEONS' UPDATE

INDICATIONS FOR SURGERY SESSION SHINES AT ISCFS 2025

"This underscored one of the Society's greatest strengths: its ability to convene voices from across the world to tackle difficult problems together."

BEN MASSENBURG
UNITED STATES

This year we held the inaugural **Indications for Surgery** session at the ISCFS Congress in Shanghai, presented by the Young Surgeons' Committee. The concept was simple yet powerful: provide young surgeons with a platform to present their most challenging cases, then invite experts and peers from across the world to weigh in with perspectives, experiences, and lessons learned. The execution exceeded all expectations, sparking a lively, thoughtful, and truly global discussion.

What set this session apart was not only the content, but also the diversity of participation. Attendees from nearly every major continent filled the room, creating a truly international forum. The cases themselves reflected this breadth, with submissions that highlighted the real-world complexities faced by surgeons in different training environments and health systems. This underscored one of the Society's greatest strengths: its ability to convene voices from across the world to tackle difficult problems together. Nowhere else can early-career surgeons from Europe, Asia, and North America sit side by side and compare approaches to some of the most difficult problems in craniofacial surgery.

- **Dr. Timothy Sng** (Singapore) presented a case of Treacher Collins Syndrome with obstructive sleep apnea, raising nuanced questions about surgical sequencing, growth considerations, and patient/family-centered goals of care.
- **Dr. Hanna Lif** (Sweden) presented a striking case of clover leaf skull and Pfeiffer Syndrome, a condition that challenges even the most experienced craniofacial teams. Her case highlighted questions of timing, multi-suture involvement, and balancing risks of elevated intracranial pressure with staged interventions.
- **Dr. Sameer Shakir** (USA) shared the management of a patient with micrognathia and severe mandibular hypoplasia. His case prompted robust discussion about perioperative planning, surgical access, and the coordination required between craniofacial and anesthesiology teams when standard protocols do not apply.

What tied these cases together was their refusal to fit neatly into algorithms. Each pushed the audience to consider: *When is surgery indicated? What approach makes sense in this context? And*

what can we learn from each other's experience?

Senior faculty offered pearls from decades of experience, while peers asked probing questions and shared alternative approaches. The dialogue moved beyond techniques and into the art of surgical judgment: when to intervene, when to delay, and how to tailor care when the "textbook" pathway doesn't apply.

The success of this session suggests that we will aim to repeat this gathering in Rotterdam in 2027. By focusing on cases that resist easy answers, the session reminds us why we gather: not simply to celebrate what we know and have recently discovered, but to wrestle with what remains uncertain.

On behalf of the Young Surgeons' Committee, I want to thank all who attended and participated—especially Drs. Sng, Lif and Shakir for their courage in presenting cases that demanded humility, openness, and collaboration. I also thank Dr. Richard Hopper for his expert guidance and our audience members whose insights made the discussion so valuable.

As we look to the future, our commitment is clear: to keep building spaces where young surgeons can ask bold questions, share real cases, and find mentorship and camaraderie in the global craniofacial community. The *Indications for Surgery* session proved that when we do this, everyone benefits—most of all, our patients.

NEXT WEBINAR TOPIC – JANUARY

How I treat late-presenting sagittal craniosynostosis

Jan 20th 2026 | 11:00 am UTC

Join us on Jan 20th 2025,
at 11:00 am UTC for an in-depth discussion.

WELCOMING THE ISCFS GLOBAL SUPPORTERS FOR 2025

We are proud to welcome our new global supporters for 2025 and extend our heartfelt thanks for their invaluable contribution to our society.

Their commitment helps us advance education, innovation, and excellence across the field. Together, we look forward to another impactful year.

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WINDOW INTO HISTORY

EUGÈNE CHARLES APERT AND THE CONGENITAL LOCALIZED BONY DYSTROPHIES

Life – Eugène Charles Apert (1868-1940) was a French pediatrician who studied medicine at Paris University graduating in 1897 with a thesis on the phenotypic aspects and pathogenesis of different forms of purpura. He had a brilliant career having had Paul Georges Dieulafoy (1839-1911) and the pediatrician Jean Antoine Bernard Marfan (1858-1942) as professors. In 1902, he was appointed to the *Hôtel-Dieu* and became *Médecin des Hôpitaux*. He dedicated himself to the specialty of pediatrics which he pursued at the *Hôpital Saint-Louis* before serving in World War I. In 1919, he was nominated pediatrician at the *Hôpital des Enfants-Malades* in Paris where he remained until his retirement in 1934. His main fields of interest were congenital deformities and genetic disease. He was a founding member of the French Society of Eugenics, later becoming the Secretary General. Over a period of forty years, Apert was a busy writer in the field of pediatrics, publishing numerous papers. He died in 1940.

Acrocephalosyndactyly – Although congenital craniosynostosis associated with syndactyly and maxillary retrusion was first reported by Wheaton in 1894 [1], Apert described the malformation in detail. In 1906, he published a paper examining nine individuals who shared similar characteristics, consisting of a triad of disorders, namely craniosynostosis, syndactyly of hands and feet, and maxillary hypoplasia [2]. ***(Figure 1)***

Figure 1 – Patient affected by craniosynostosis associated with syndactyly, as reported by Eugène Apert (from Apert E., ref. No. 2)

RICCARDO F. MAZZOLA
History Editor
ITALY

"He considered the condition part of a vast group of congenital cranial deformities'

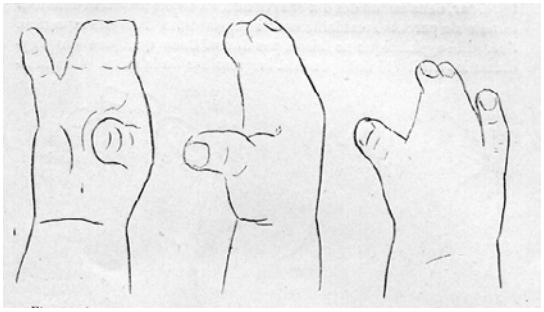

Figure 2 – Syndactyly of the hands. The median fingers are fused, whereas the thumb remains separated (from Apert E., ref. No. 3).

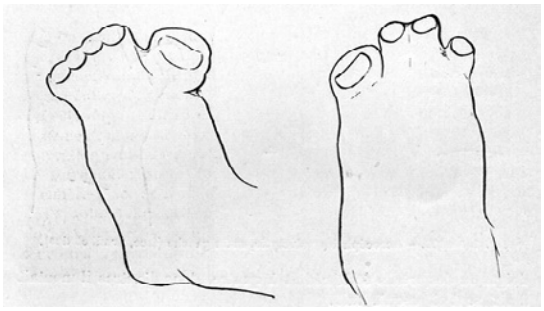

Figure 3 - Syndactyly of the feet. Fingers and nails are conjoined, whereas the big toe remains separated (from Apert E., ref. No. 3).

REFERENCES

1. *Wheaton SW. Two specimens of congenital cranial deformity in infants associated with fusion of fingers and toes. Trans Pathol Soc London 1894, 45: 238-41*
2. *Apert E. De l'Acrocéphalosyndactilie (On Acrocephalosyndactyly). Bull Mém Soc Méd Hôpitaux Paris. 1906, 3 sér, 23: 1310-1330*
3. *Apert E. Dystrophies Osseuses Congénitales et Localisées (Congenital and Localized Bony Dystrophies). In: Nouveau Traité de Médecine et de Thérapeutique. Paris; Baillière and sons, 1911*

To name the malformation, Apert coined the term *Acrocéphalosyndactylie* (Acrocephalosyndactyly), from the Greek *acro* (peak), referring to the "peaked" head that is typical of the syndrome; cephalo, also from the Greek, meaning skull; and *syndactyly* referrring to webbing of fingers and toes. He considered the condition part of a vast group of congenital cranial deformities [3].

He wrote: "I proposed the name of Acrocephalosyndactyly to describe a teratologic condition characterized by the coexistence of a deformity of the *skull* which protrudes in the upper frontal region and is associated with a particular type of syndactyly of the four limbs. Moreover, in the majority of the cases, we observe a deformity of the palatine vault. (...) The skull shows the following features: it is plane in its posterior aspect, such that the prominence of the occiput doesn't exist anymore. The occipital bone is flat and vertical. It is only beyond the lambda that the contour of the skull leans forward, although it continues upward. The most elevated part of the skull, corresponding to the bregma, is located almost at the same vertical level of the forehead and face. Bossing of the frontal bone is present in its general aspect, but in its medial part it forms a bulge which divides the eyebrow arcade by a deep midline furrow. Complete syndactyly usually involves hands and toes.
Hands: Fusion is more complete at the extremity of the fingers with respect to the root. The nails of the three median fingers are often fused together forming a single unit. Because of the syndactyly, the hand is immovable; however, the thumb remains generally free as well as the fifth finger. ***(Figure 2)***.

Feet: Toes are joined in a way that the foot is similar to a sort of spatula, bordered by a single conjoined nail corresponding to the five nails fused together. When this happens, the big toe is usually not involved in the fusion. ***(Figure.3)*** (...)

The *Face* is also variably affected. The maxillary bone is hypoplastic, in a way that the right and left alveolar bone may come into contact with each other, sometimes even fusing together in their anterior part, forming a sort of pseudo palatine vault, just below the true vault. Bifid uvula is often present. Dental crowding is associated. The nose is depressed. Exophthalmia may be observed."

Apert reported that the malformation is neither familial nor hereditary.

Although Apert was not the first to describe congenital craniosynostosis associated with syndactyly, we are greatly indebted to him for having published a detailed description of the condition, shown in the photograph, and for coining the term *Acrocéphalosyndactylie*. As a tribute to Eugène Apert, the malformation came to be known as Apert Syndrome.

NEW TECHNOLOGIES

BEYOND THE BONE: HOW NEW TOOLS ARE SHAPING MONITORING IN PAEDIATRIC CRANIOFACIAL SURGERIES

ARUN SHARMA
INDIA

GAURAV KAKKAR
INDIA

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INDIA

ANIL K. MURARKA
INDIA

VEENA RAGHUNATHAN
INDIA

Craniofacial surgery, as fascinating as it is, often walks a fine line between artistry and high-risk physiology. While as surgeons, our focus is on anatomy: bones and soft tissues; however, the reality is that the brain sits only a thin barrier away and communicates seamlessly with both eyes. In patients undergoing surgery, both raised intracranial pressure and optic nerve injuries are a cause of concern. Traditionally, we have relied heavily on imaging or clinical monitoring to confirm what a clinician's instincts suspected. Additionally, post-extubation anxiolysis in children has relied on medications such as midazolam combined with opioid analgesics. While effective in calming, this approach can depress the respiratory centre and carries significant risks in surgeries approaching the airway.

Over the last few years, our Pediatric Intensive Care and anaesthesia colleagues have embraced non-invasive tools viz optic nerve sheath diameter (ONSD) measurement (Figure 1) and trans-cranial Doppler (TCD) (Figure 2). These constitute our routine monitors before, during and after high-risk craniofacial procedures now. The ease of monitoring and the parameters provided deliver valuable insights into the neurological health of the patient.

Recently, on two occasions ONSD readings flagged rising intracranial pressure even before a CT scan could be obtained. The subsequent imaging corroborated

the finding and led us to take appropriate measures.
Patient 1 was a severe form of grade III Hypertelorism with basal encephaloceles in a 4-year-old boy. At the time, we were not taking pre-operative readings; however, we did monitor this patient post-operatively using ONSD measurements. An above normal (>4.5mm) reading led us to anticipating an impending neurological injury which was confirmed on CT as cerebral infarction (Figure 3).

Patient 2 was a 5-year-old girl with midline facial cleft and grade III Hypertelorism who underwent facial bipartition. We had already adopted the technique of taking pre-operative ONSD and VEP (Figure 4) readings for our patients before this patient was operated on. Post-operatively in the ICU, we noted an abnormal increased measurement in the left eye (Figure 5). We re-explored the patient to release/nibble the proximal medial orbital wall and roof edges to negotiate the acute curve of the optic nerve and decompress the orbit respectively (Figure 6).

Patient 3 was an 8-year-old boy with cranio-frontal fibrous dysplasia, who was losing vision in his right eye due to abnormal bone growth around the optic nerve. He was taken for optic nerve decompression and cranio-orbital bone recontouring. Post-operatively, he showed changes in ONSD readings. However, in view of proximity to the optic nerve, he was not taken for any re-exploration. He was started on aggressive steroid therapy, and the patient was only medically managed.

However, there was an occasion in one of our hypertelorism patients where ONSD readings did not raise a concern. Our immediate post-operative CT suggested a definite bony impingement on the eyeball. Although we do believe that there is a possibility, the bone impingement noted on the scan was not causing any deleterious effect; however, the CT picture was such that we could not "sleep" on it. We went ahead and intervened anyway. Therefore, although it is a good screening tool, it is not the only tool. In our opinion, it would still not replace a CT scan for a definitive diagnosis. It only supplements it.

Equally transformative has been the adoption of Dexmedetomidine into our peri-operative practice. Extubation in craniofacial patients has historically been fraught with concern of airway swelling, agitation and the risk of respiratory compromise. With dexmedetomidine, the response is much different: extubation is smooth, the airway remains stable, respiratory depression is avoided, and heart rate is well controlled. It is reassuring for the parents to see their child calm, comfortable and breathing normally. Additionally, the advantage of early resumption of nutrition adds to the sense of steady progress.

The above-mentioned episodes have reaffirmed our belief in such bedside tools. Although CT has been the mainstay of definitive diagnosis, these tools aid us in close monitoring and protect our patients from devastating neurological injuries. The vigilance of non-invasive monitoring and the gentleness of modern pharmacology are reflections of how adaptability is re-shaping outcomes in craniofacial surgery. The outcome in the majority of major surgeries is the culmination of a patient's successful journey from pre-operative to operating room to discharge, and creativity needs to touch each step along this journey.

NEUROSURGERY CORNER

JAY JAYAMOHAN
Neurosurgery Editor
UNITED KINGDOM

I would like to thank the three people who have regularly read this column, although I think that might be overestimating the reach that I've managed to get. Last time, I mused about the need to consider our colleagues working with less-than-ideal equipment or environments. Sadly, the world does not seem to be going in a better direction, so it is even more important that we push the most humanitarian view of what we stand for – healthcare for all peoples.

This latest piece is really about the teamwork required to run a really good craniofacial service and the role of neurosurgery within such a service. In most units around the world, craniofacial surgery is led by plastics or maxillofacial surgeons. There are very few where there are neurosurgeons leading the team, although this does seem to be increasing in Europe compared to the United States during the twenty-two years that I have been a neurosurgery consultant in this field. Personally, I am very happy to be a clinical part of my team in Oxford, with my plastics colleagues doing the vast bulk of the paperwork. But those who know me will not be surprised at that revelation. Don't worry though, I have other management roles to keep me happy.

'You give me your child, and I will give them the best care that I can give. No exceptions.'

One thing I am conscious of is the number of specialists of different flavours – surgical and non-surgical, to keep our patients in tip top shape. Focusing more, it is the amount of trust that we need to place in each other during the operation. The moment when my colleague pushes a dissector under the midline strip, knowing it will be me, ultimately, who may need to stop any major haemorrhage that occurs from sinus injury. But I don't blink – I would literally trust them with one of my own children. The camaraderie from sweating for hours over a patient with Kleeblattschädel, painstaking work, often done without needing to talk to each other. It's a wonderful feeling, in a weird, masochistic way. And then knowing that if there is a problem, your anaesthetic colleague is all over it.

To my plastics/maxillofacial colleagues, I would strongly counsel against drafting in new or random neurosurgeons to help in these operations. Even some of my non-craniofacial neurosurgery colleagues are of the opinion that this is just cutting along a dotted line drawn by our plastic surgery colleagues. It is all fun and games, as the phrase goes, till someone loses an eye. And for our patients, it could be much worse.

For many of our children, there can be relatively small issues with the brain, and then appearance-related benefit becomes a significant part. The risks of major disability or death then really do become very stark. And these families need the utmost faith in us to give us their most precious children to look after. When we talk to them, we make an unwritten agreement. 'You give me your child, and I will give them the best care that I can give. No exceptions.'

The idea of wandering into an operating theatre having not met the child, or the parents, beforehand fills me with dread, unless it is in an emergency situation. While we are a relatively small number of the overall international society membership list, I would urge all teams to really encourage their neurosurgical colleagues to commit to having craniofacial surgery as a significant part of their job - and even if not in hours, certainly in reading, understanding, and clinical assessment of these patients. Fundamentally, knowing how conditions affect all parts of the body, this must be considered when making long term plans for these patients, the care of whom should be looked at potentially in terms of decades rather than weeks or months.

It would be my great hope that over the coming years, we will start to see a one third room attendance of neurosurgeons at ISCFS Congresses for us to really start to consider how we as neurosurgeons can give them the best care possible.

ISCFS NEWSLETTER

Volume 3 | Number 1

MEMBERS! Please write an article on

MY WAY:

How I treat late-presenting sagittal craniosynostosis

To submit an article of 750-1000 words with up to 5 JPG images as needed, send it to admin@iscfs.org no later than Friday, January 9, 2026.

JANUARY 2026

ORTHODONTIC CORNER

ORTHODONTIC INNOVATION IN POST-BURN CONTRACTURE RECONSTRUCTION: INTEGRATING TRADITIONAL TECHNIQUES WITH 3D TECHNOLOGY




CATHERINE T H LEE
SINGAPORE

KHONG YIK CHEW
SINGAPORE

YONG CHEN POR
SINGAPORE

BIEN KEEM TAN
SINGAPORE

INTRODUCTION

The management of post-burn patients with contracture scar tissue presents unique challenges in craniofacial reconstruction. Scar tissue complicates surgery and interferes with conventional orthodontic treatment. While advances in burn care have improved survival, they have also led to more patients presenting with secondary deformities such as contracture-induced skeletal and dental malformations. Innovative orthodontic strategies are essential to optimize both function and aesthetics in reconstruction.

Case Presentation

A 39-year-old man was seen during a humanitarian craniofacial surgical mission in Hainan, China. He had sustained an electrical burn to his face at age 13 after climbing a high-tension pole. Multiple reconstructive surgeries were performed in adolescence, but progressive deformities developed over time.

Examination revealed severe left-sided scarring from orbit to neck, with:

- Left eyelid ectropion
- Loss of the lower lip and oral commissure
- Alveolar bone deformation
- Dental displacement
- Loss of the left pinna

The initial plan involved extraction of displaced teeth and resection of the deformed mandibular alveolar bone before cheek reconstruction with a free flap. However, this approach risked leaving the patient with limited options for future dental rehabilitation due to postoperative scarring.

RATIONALE FOR ORTHODONTIC MANAGEMENT

Instead of resection, we considered the long-term impact of scar contracture. Over 25 years, contractile forces had displaced teeth and distorted alveolar bone. By applying orthodontic forces in the opposite direction, we aimed to restore arch form, reposition bone, and re-establish occlusion. This would improve mastication and create a stable foundation for flap-based soft tissue reconstruction.

Orthodontic Intervention

As the patient lived far away, treatment was planned to

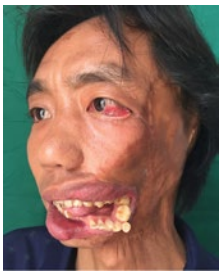

Figure 1 - Clinical Presentation

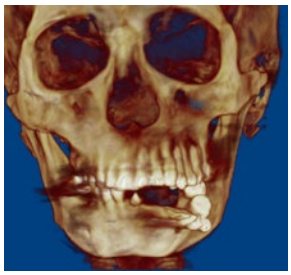

Figure 2 - 3D Reconstructed CBCT (Pre-Operative)

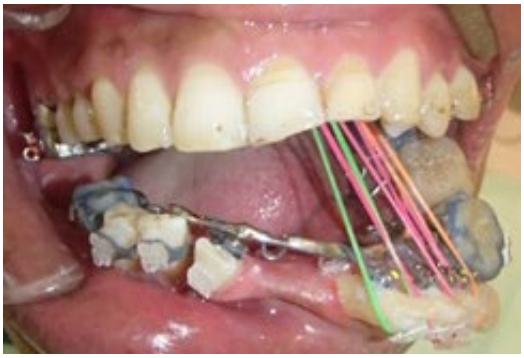

Figure 3 - Non-conventional orthodontics to retract and upright displaced teeth with biomechanics in opposing forces of contracture.

Figure 4 - Direct printed alginers in-house production

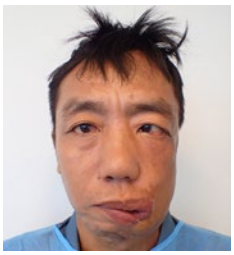

Figure 5 - Post operative with anterolateral thigh free flap reconstruction of the left cheek scar with tensor fascia lata to shape the new oral commissure

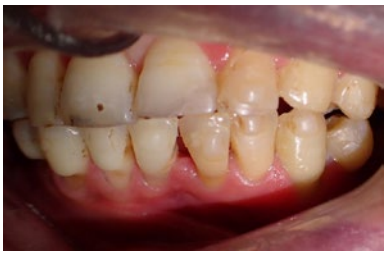

Figure 6 - Post-orthodontic outcome with stable alveolar housing, full occlusion, and no root exposure; commissure scarring limited photography, and jaw resection would have greatly hindered future dental rehabilitation.

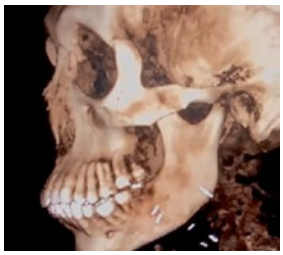

Figure 7 - 3D Reconstructed CBCT (Post-Operative)

minimize in-person visits, limited to once every six months, supplemented with online reviews every 2–4 weeks.

Non-conventional orthodontics was carried out over 2 years and 3 months, including:

- Anchorage: Custom stainless-steel arch bars (0.40") with multiloop 0.020" piggyback wires
- Mechanics: Traditional brackets, elastics, and chains to apply controlled corrective forces
- Monitoring: Remote supervision with periodic on-site assessments

Following correction, intraoral 3D scanning was performed. During reconstruction of the left cheek and oral commissure with an anterolateral thigh free flap (using tensor fascia lata), 3D-printed aligners were employed to close interdental spaces and refine occlusion.

OUTCOME

- Treatment achieved:
- Uprighting and repositioning of displaced teeth
- Restoration of arch form and occlusion
- A stable base for flap reconstruction
- Improved mastication
- Fewer surgical steps with reduced morbidity

DISCUSSION

This case demonstrates orthodontics as a central element in craniofacial reconstruction. By combining conventional biomechanics with 3D scanning and aligner technology, treatment was simplified while improving outcomes.

Key Benefits of the Combined Approach:

1. Simplified reconstruction – fewer surgical steps were needed.
2. Reduced morbidity – bone and tooth resection was avoided.
3. Functional restoration – occlusion and mastication were regained before flap surgery.
4. Integration of old and new – established orthodontic mechanics guided skeletal correction, while 3D technology enhanced precision and efficiency.

CONCLUSION

Orthodontics can play a critical role in multidisciplinary craniofacial reconstruction, particularly in complex post-burn contracture cases. This case highlights how integrating traditional orthodontic methods with digital technology can reduce morbidity, simplify reconstruction, and improve long-term outcomes.

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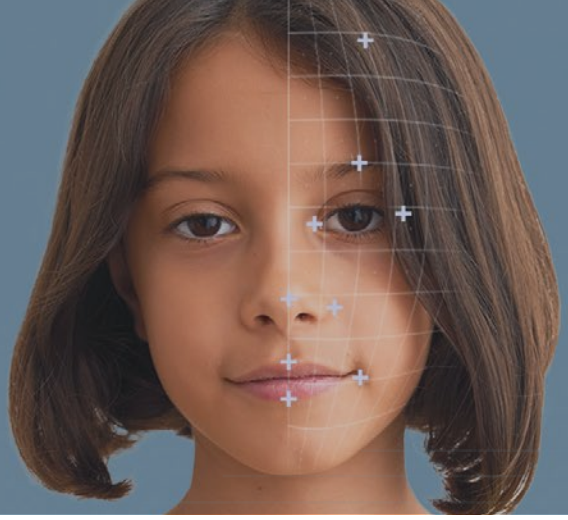

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EVENT CALENDAR

EACMFS

28th Congress of the European Association for Cranio Maxillo Facial Surgery
Location: Athens, Greece
Date: September 15-19, 2026
Website:
www.eacmfs-congress.com

ESCFS

European Society of Craniofacial Surgery Congress
Location: Ankara, Türkiye
Date: September 17-19, 2026
Website:
www.escfs2026.org

ACPA'S

American Cleft Palate-Craniofacial Association 2026 Annual Meeting
Location:
Hilton Boston Park Plaza
Boston, MA, USA
Date: March 24-28, 2026
Website:
acpacares.org/annual-meeting

ISCFS 2027

Location: Rotterdam, Netherlands
Date: September 7–10, 2027
Website: www.iscfs.org

To submit a meeting to the calendar in our next issue, send the following information to admin@iscfs.org: Meeting Title, Location, Dates, Website.

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Prof. Dr. Irene Mathijssen
ISCFS Congress President (Rotterdam)

SEE YOU IN ROTTERDAM!