



# Healthy Wealthy

*Oral Maxillofacial Insights:  
Trauma & Management*



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# ABOUT US

## Vision

To be the region's most trusted provider of specialist medical services, delivering accurate expertise and second opinions through a comprehensive network of medical specialists across Malaysia and Asia.

## Mission

To uphold and advance our specialist medical advisory standards through global best practices, proactive engagement with clients and partners, and strict credentialing of our specialist panel.

*Healthcare Consultants Asia (HCASB) is a trusted subsidiary of Mudah Healthcare. As experts in third-party medical reporting, HCASB specializes in providing detailed and comprehensive medical assessments that help streamline processes and ensure clarity in claims management.*

*With a panel of over 130 specialist doctors, HCASB is dedicated to delivering accurate and high-quality reports, offering valuable insights and supporting informed decision-making for our clients. Our reports foster fair, transparent resolutions, reinforcing the integrity and efficiency of the claims process.*

*HCASB is looking forward to continuing our commitment to excellence in medical reporting, making a meaningful impact on the success of our partners in the industry.*

# From The Desk of Christine Chia

Welcome to the April edition of Healthy Wealthy by HCA

As we move into the second quarter of the year, our focus remains steadfast on enhancing patient outcomes through specialized expertise and multidisciplinary care. This month, we are particularly proud to shine a spotlight on the critical intersections of dental and medical health.

April's edition features feature our Specialist of the Month, **Dr. Kathiravan Purnal**, whose expertise in **Oral and Maxillofacial Surgery (OFMS)** serves as a critical nexus between medicine and dentistry.

For our insurance and legal partners, Dr. Kathiravan's work provides the independent clinical interpretation and forensic depth required for complex claims adjudication and medical-legal assessments. His focus on evidence-based outcomes and objective reporting ensures the defensibility of decisions involving facial trauma, reconstructive necessity, and standard of care.

Throughout this feature, Dr. Kathiravan shares insights into the clinical assessment and management of complex maxillofacial injuries following high-impact accidents. His insights provide stakeholders with a deeper understanding of the evidence-based protocols that drive successful outcomes in these highly specialized and high-stakes cases.

I hope you find this month's insights both informative and inspiring. As always, thank you for being a part of our community and for your continued trust in Healthcare Consultant Asia.

***Warm Regards,***  
*Christine Chia*  
***Assistant General Manager***  
***HCASB***



## Dr. Kathiravan Purmal

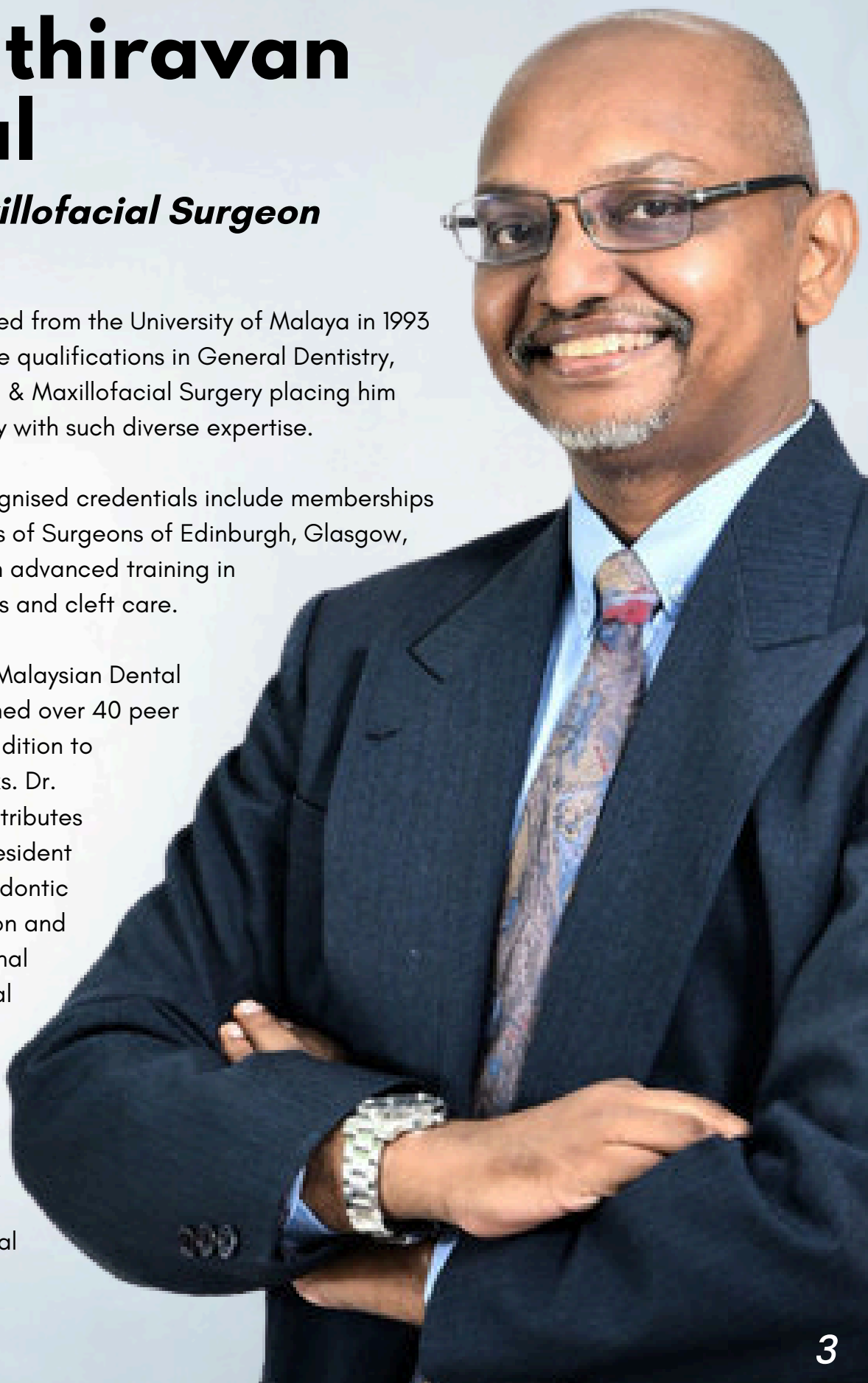
### *Oral and Maxillofacial Surgeon*

#### *Consultant*

Dr. Kathiravan graduated from the University of Malaya in 1993 and holds postgraduate qualifications in General Dentistry, Orthodontics, and Oral & Maxillofacial Surgery placing him among the few globally with such diverse expertise.

His internationally recognised credentials include memberships with the Royal Colleges of Surgeons of Edinburgh, Glasgow, and London, along with advanced training in craniofacial deformities and cleft care.

He is the Editor of the Malaysian Dental Journal and has published over 40 peer reviewed articles, in addition to co-authoring four books. Dr. Kathiravan actively contributes to the profession as President of the Malaysian Orthodontic Practitioners Association and holds key roles in national and international dental organisations. He is also dedicated to mentoring young dentists, participating in charitable initiatives, and providing expert opinions in medico-legal dental cases.



## WHAT HAPPENS AFTER FACIAL INJURY IN ACCIDENT?

*By Dr. Kathiravan Purmal*



### **SEQUELAE OF MAXILLOFACIAL TRAUMA AND ITS MANAGEMENT**

Maxillofacial trauma encompasses injuries to the facial skeleton, dentition, and associated soft tissues, often resulting from road traffic accidents, interpersonal violence, and falls. While acute management focuses on life-threatening conditions, long-term sequelae may significantly impair function, aesthetics, and psychological health. These sequelae include malocclusion, temporomandibular joint disorders, facial deformities, nerve injuries, ocular complications, and psychosocial disturbances.

Effective management requires a multidisciplinary approach involving surgical correction, dental rehabilitation, physiotherapy, and psychological support. Advances such as virtual surgical planning and biomaterials have improved outcomes. This article reviews the common sequelae of maxillofacial trauma and discusses current strategies for their management.

Maxillofacial trauma represents a significant global health burden, particularly in developing countries where road traffic accidents are prevalent. The face plays a critical role in mastication, speech, vision, and social interaction; thus, injuries can lead to both functional impairment and psychological distress.

Although early intervention aims to restore anatomy, inadequate or delayed treatment often results in long-term complications, collectively termed sequelae. Understanding these complications is essential for clinicians to provide comprehensive care and improve patient quality of life.

## Sequelae of Maxillofacial Trauma

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### **Functional Sequelae**

Functional deficits are among the most disabling consequences. Malocclusion commonly arises from improperly reduced mandibular or maxillary fractures, leading to impaired mastication and speech (Ellis & Muniz, 2004). Trismus, or restricted mouth opening, may result from fibrosis, prolonged immobilization, or temporomandibular joint (TMJ) injury. TMJ disorders, including ankylosis, can severely restrict mandibular movement and cause chronic pain (Zide & Kent, 1983). Additionally, airway compromise may occur due to structural deformities or soft tissue collapse.

### **Aesthetic Sequelae**

Facial disfigurement significantly affects patient self-esteem and social interactions. Common deformities include facial asymmetry, loss of projection, and contour irregularities due to malunion or bone loss. Soft tissue injuries often heal with hypertrophic scars or keloids, particularly in predisposed individuals (Fonseca et al., 2017).

### **Neurological Sequelae**

Nerve injuries frequently accompany facial trauma due to the complex anatomy of the region. Damage to the inferior alveolar or infraorbital nerves can lead to paresthesia or anesthesia. Facial nerve injury may result in partial or complete paralysis, affecting both function and facial expression (Bagheri et al., 2012).

### **Ocular Sequelae**

Orbital trauma can produce significant complications such as diplopia, enophthalmos, and visual impairment. These result from muscle entrapment, orbital floor fractures, or optic nerve damage (Burnstine, 2002). Untreated orbital injuries may lead to permanent visual deficits.

### **Dental and Alveolar Sequelae**

Dental injuries are common and include tooth loss, pulp necrosis, and alveolar bone resorption. These complications can compromise both aesthetics and oral function, necessitating long-term dental rehabilitation (Andreasen & Andreasen, 2018).

### **Psychological Sequelae**

Psychological consequences are often underestimated but can be profound. Patients may experience anxiety, depression, or post-traumatic stress disorder (PTSD). Facial disfigurement further contributes to social withdrawal and reduced quality of life (Shepherd et al., 2004).





## Management of Sequelae

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### ***Multidisciplinary Approach***

Management requires collaboration among oral and maxillofacial surgeons, plastic surgeons, dentists, ophthalmologists, physiotherapists, and mental health professionals.

### ***Surgical Management***

Surgical correction is often necessary for structural deformities. Malunion and nonunion may require osteotomy and rigid fixation. Bone grafting, using autogenous or alloplastic materials, is commonly employed to reconstruct defects. Microvascular free tissue transfer is indicated in complex cases (Fonseca et al., 2017).

Scar revision procedures such as Z-plasty, dermabrasion, and laser therapy can improve cosmetic outcomes. TMJ disorders may require interventions ranging from arthrocentesis to open joint surgery.

### ***Dental Rehabilitation***

Restoration of dental function is essential. Treatment options include prosthodontic rehabilitation (dentures, bridges, implants), orthodontic correction of malocclusion, and endodontic therapy for non-vital teeth (Andreasen & Andreasen, 2018).

### ***Physiotherapy***

Physiotherapy plays a crucial role in preventing and managing trismus and joint stiffness. Early mobilization, jaw exercises, and the use of dynamic splints can improve range of motion and functional recovery.

## Management of Sequelae

### **Management of Nerve Injuries**

Nerve injuries may resolve spontaneously; however, severe cases may require surgical repair, including nerve grafting or decompression. Pharmacological support with neurotrophic agents may aid recovery (Bagheri et al., 2012).

### **Ophthalmologic Management**

Orbital fractures often require surgical repair to restore anatomy and function. Diplopia may be managed with prism glasses or corrective surgery. Regular ophthalmologic follow-up is essential to monitor visual outcomes (Burnstine, 2002).

### **Psychological Support**

Psychological care is integral to recovery. Counseling, cognitive behavioral therapy, and support groups help patients cope with trauma and facial disfigurement.

### **Advances in Management**

Recent technological advancements have improved treatment outcomes. Virtual surgical planning and 3D printing enable precise reconstruction and reduce operative time. Biomaterials such as titanium meshes and resorbable plates offer improved biocompatibility. Emerging fields like regenerative medicine and tissue engineering hold promise for future reconstruction techniques.

The sequelae of maxillofacial trauma are diverse and can significantly affect a patient's functional ability, appearance, and psychological well-being. Effective management requires early diagnosis, meticulous treatment planning, and a multidisciplinary approach. Advances in surgical techniques and technology continue to enhance outcomes, but long-term follow-up and holistic care remain essential for optimal rehabilitation.



# CLINICAL ADVISORY & INDEPENDENT MEDICAL OPINION SERVICES

At HCASB we work with over 100 medical specialist with focus on over 23 core specialities. All assessments are grounded in clinical evidence, imaging correlation and longitudinal outcome analysis.

Our team provides:

- **Independent medical opinions and reporting**
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  - **Medico-legal reporting**
- **Second opinions for complex medical cases**
  - **Claims clarification support**

**OBJECTIVE ANALYSIS. CLINICAL CLARITY. RESPONSIBLE REPORTING.**

For case referrals or medico-legal consultations, professional enquiries may be directed to:

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WhatsApp or Call to speak to our Medico-Affairs Team

 [018-208 9070](tel:018-208-9070)

# HCASB FORUM

## NEXT-GEN PROSTHETIC INNOVATION FORUM

Introducing Prosthetics of  
Upper & Lower Limb of the Human Body

18 APRIL 2025 // 8AM - 5:30PM // HILTON KUALA LUMPUR (BALLROOM A, LEVEL 6)

### KEY INSIGHTS

- i-Digits & i-Limb systems
- Naked Prosthetic devices
- Knee selection principles
- Mechanical vs microprocessor knees
- Indications, limitations, and patient suitability
- Energy storage & return
- Stability vs mobility considerations



**Mr. Zulfaqar Omar**  
SEA Sales Manager, Clinical Specialist  
Ossur



**Mr. Keefe Tan**  
Regional Sales Manager Growth, Asia  
Ossur



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# Events & Conferences

## ***MEDICAL CONFERENCES & EVENTS***

**International Conference on Medical,  
Biological & Pharmaceutical Sciences**

2 & 3 April | Kuala Lumpur (M Resort & Hotel)

**International Conference on Medical Ethics & Patient Advocacy (ICMEPA)**

2 April | Kuala Lumpur

**International Conference on Medicine & Genetic Research (ICMGR)**

2 April | Kuala Lumpur

**APAC Angel Aligner Symposium**

9 - 11 April | Kuala Lumpur (EQ Hotel)

**International Conference on Medical Ethics & Biomedical Law**

13 April | Kuala Lumpur

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## ***LAW CONFERENCES & EVENTS***

***International Conference on Law & Society (ICLS)***

1 April | Kuala Lumpur (TBC)

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## ***INSURANCE CONFERENCES & EVENTS***

***Asian Banking & Finance & Insurance Asia Summit***

14 April | Kuala Lumpur CBD

**International Conference on Insurance Contract Law & Legal Frameworks**

7 April | Malacca

**International Conference on Green Insurance & Climate Resilience**

18 April | Putrajaya

**HEALTHCARE CONSULTANTS ASIA**

**2026**

## **Stay Connected With HCASB**

Unit 28-12 Level 28, Q Sentral, Jalan Stesen Sentral 2,  
Brickfields, 50470 Kuala Lumpur, Federal Territory of  
Kuala Lumpur

[03-2276 6681](tel:03-22766681) | [+6018-208 9070](tel:+6018-2089070) | [admin@hcasb.com](mailto:admin@hcasb.com)

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