

# Emergency Medicine in Malaysia Through the Decades: Bridging Gaps and Breaking Barriers

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## Abstract

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Emergency Medicine in Malaysia started out of necessity in response to patients with injuries from accidents as well as those having medical emergencies. Since after the independence in 1957, despite being an important entity, it was not given much value and very neglected in terms of resources and support. Nevertheless, starting in the late 1990s, serious effort had been put in place to make this medicine more organized and better structured to improve the practice. The first local specialty programme was started in 1998 and there were six specialists who graduated in 2002. Subsequently, the discipline had been approved as the 14<sup>th</sup> specialty in 2004 by the Ministry of Health. After 20 years, by July 2024, there are 740 Emergency Physicians produced in Malaysia. Currently 4 universities are running the Master of Medicine (Emergency). On top of this, there is also a parallel programme linked with the Royal College of Emergency Medicine in the United Kingdom. In 2011, College of Emergency Physicians had been established and currently it has 11 special interest groups (SIGs). Emergency Physicians in Malaysia had transformed the practice of Emergency Medicine into a respected discipline with knowledge and skills that meets the global emergency medicine standard. The progress of this medicine in Malaysia was made possible with united effort by the fraternity to bridge all gaps. Coming together, the fraternity broke existing barriers to move forwards. There are great challenges promised in the future, but with all joining hands to complement the needs of this medicine, the sky is the limit in achieving excellent emergency care for the society.

**keywords:** *emergency medicine, emergency physicians, knowledge, skills*

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## INTRODUCTION

Emergency medicine in Malaysia has made significant strides since the country gained independence in 1957. Initially, hospitals were equipped with small units called 'Accidents and Emergency' (A&E) departments, colloquially called 'Casualty'.<sup>1</sup> These units were primarily designed to manage trauma and medical emergencies. However, no organizations are responsible for providing high-quality emergency medical care, and no specific training programs for physicians and nurses.<sup>2</sup>

Despite these challenges, the necessity for effective emergency care drove the evolution of these units into a recognized medical specialty. In 2004, the Ministry of

Health (MOH) officially designated emergency medicine as the 14<sup>th</sup> medical specialty in Malaysia. A structured postgraduate training program commenced in 1998, with the first cohort of six specialists graduating in 2002.<sup>1</sup> By 2024, the number of trained specialists has exceeded 700.

Emergency medicine has become an increasingly popular specialty in Malaysia. However, this development was neither simple nor straightforward; requiring considerable effort and numerous sacrifices. The progress is primarily attributed to the relentless dedication of many passionate individuals who worked tirelessly to bridge gaps and overcome barriers, ultimately advancing the field to its current status.

### Emergency Medicine Before the 1990s: 'Dark Ages'

Before the 1990s, emergency medicine in Malaysia was characterized by its rudimentary setup, existing in small corners of hospitals where patients experiencing medical emergencies were reviewed and managed. The structural and organizational framework was basic and often overlooked in importance. These emergency corners were managed by medical officers and, in some instances, by assistant medical officers. The concept of emergency medicine as a distinct specialty did not exist, and no dedicated specialists were overseeing these departments.

The equipment in these units was limited, and the departments received only minimal allocations from hospital budgets. Medical officers assigned to these areas did not have a defined career pathway and usually served there temporarily. There was no formal triage system or dedicated areas for resuscitation. Additionally, the ambulance services were disorganized, with multiple emergency call numbers, leading to inefficiencies in emergency response.<sup>3</sup>

### Emergency Medicine in the 1990s: Establishment of a Local Specialty Programme

Historically, postgraduate training in Malaysia was initiated in 1986 as the Master in Medicine (MMed), a 4-year structured program encompassing intensive clinical and academic training in various specialties. The first MMed program intake for Emergency Medicine occurred in 1998, with seven candidates, spearheaded by the School of Medical Sciences, Universiti Sains Malaysia (USM),<sup>1</sup> with solid support from the MOH. The lecturers consisted of specialists from various fields, mainly Orthopedics and Anesthesiology. The curriculum included rotations through various specialties for broad exposure, research projects or dissertations, and periodic assessments, including written exams, clinical exams, and viva voce. By this time, emergency departments in MOH hospitals 'adopted' specialists from other specialties or departments as 'foster' heads.

### Emergency Medicine in the 2000s: Expansion of training centres

The first batch of Emergency Physicians (EPs) graduated in 2002.<sup>1</sup> Two of them stayed in the USM as academic staff whereas the rest were sent to Kuala Lumpur, Sarawak, Sabah and Penang. In 2005, similar programmes started at Universiti Malaya (UM) and Universiti Kebangsaan Malaysia (UKM).

Following the establishment of three universities offering specialty programs, a conjoint board in emergency medicine was established in 2005 and, since then, MMed (Emergency) examinations have been combined. The establishment of the conjoint board committee further enhanced the standard of emergency medicine postgraduate training. Candidates from USM, UKM and UM sat for the same set of questions with the same group of examiners. With all these universities starting the programme, the number of emergency medicine specialists called emergency physicians (EPs) grew steadily.

Newly graduated EPs had made efforts to modernize emergency departments. They also helped establish emergency call centres and contributed heavily to the establishment of one call number, 999. Medical Emergency Call Centres (MECCs) were established throughout the country to coordinate the ambulance response. Call takers were trained to provide medical directives as well as pre-arrival instructions, and a system to dispatch strategically placed ambulances was established.<sup>3</sup>

Several societies had also been established to conduct short training and conferences, including the Malaysian Society for Traumatology and Emergency Medicine, Malaysian Association of Emergency Medicine, Society for Clinical Critical and Emergency Sonography, Malaysian Society for Care of Trauma, and many hospital-based societies. The Asian Conference on Emergency Medicine (ACEM) was successfully hosted in 2007. Additionally, conferences such as the International Conference on Clinical Emergency Medicine (ICCEM) and Major Incident Response Exercise (MIREX) competitions are held annually, attracting national and international participation.

### Emergency Medicine in the 2010s: The birth of the College of Emergency Physicians and moving beyond

Initially, EPs joined the Academy of Medicine, Malaysia (AMM) as members of the College of Surgeons. Later, the College of Emergency Physicians (CEP) was established as a separate entity on 5<sup>th</sup> April 2011. A membership drive was launched, and 35 individuals joined as members, fulfilling the minimum of 30 needed. The first annual general meeting was held on 10<sup>th</sup> September 2011.

Subsequently, the CEP actively assisted in preparatory courses and examinations such as Pre-Interview Assessment for Emergency Medicine (PIAEM). It also facilitated the interview of candidates for MMed (Emergency) intake among MOH doctors. When the Malaysian Examinations Council introduced

the Medical Specialist Pre-entrance Examination (MedEx) as a uniform system of pre-entrance examinations, the CEP assisted in setting the examination questions and managing the funds and logistic needs. The CEP also became a non-voting member of the conjoint board. By 2012, emergency medicine had become Malaysia's second most popular postgraduate programme.

The first Emergency Medicine Annual Scientific Meeting (EMAS) was held together with the Tripartite Academy of Medicine, Malaysia (AMM), Academy of Medicine, Singapore (AMS) and Hong Kong Academy of Medicine (HKAM) Congress in August 2016 at Kuala Lumpur. It was a rousing success with over 1000 participants. The conference has become an annual event that unites all emergency healthcare personnel in Malaysia. Since then, the conference, which had been held annually, attracted many local and international participants.

In 2016, the MMed (Emergency) programme in UKM was renamed as Doctor of Medicine (Emergency) for their graduates in view of the duration and thesis work that was seen as equivalent to a doctorate programme. The rest of the universities still maintained the programme nomenclature as MMed (Emergency) despite the syllabus being almost identical.

An initiative to establish a parallel program was undertaken to increase eligible candidates' access to specialty training in emergency medicine. In 2016, collaboration began with the Royal College of Emergency Medicine (RCEM), United Kingdom, to create a parallel pathway for emergency medicine training. By 2018, an official partnership with RCEM established a structured Fellow Royal College of Emergency Medicine (FRCEM) program for local Malaysian candidates, enabling them to complete the FRCEM program. The MOH coordinated the program's implementation to ensure that Malaysian trainees met all curriculum requirements and were eligible for National Specialist Register (NSR) registration.

CEP also assisted in logistics for the conduct of mock OSCE examinations for the RCEM. Starting in 2019, Malaysia became one of the international sites for FRCEM examinations. Currently, several candidates have completed FRCEM and have begun to contribute as specialists in Malaysia. CEP plays a pivotal role in ensuring that the standard of emergency medicine practice in Malaysia is on par with or even better than that prescribed by the global emergency medicine community.<sup>2</sup>

## Emergency Medicine in the 2020s: Soaring Upwards and Beyond

The COVID-19 pandemic which hit the nation and the world in 2020, was a major challenge for the emergency medicine community throughout the nation. All leaders in this medicine had to adapt and adopt new measures quickly to handle the disaster. Nevertheless, all over the country, the fraternity joined forces and braved the storm until the disaster subsided. As frontliners, the fraternity had been given much respect, and its values in existence were realized and appreciated by the public. They were given the honour to lead the National Day Parade in 2022 during which, frontliners were given a standing ovation by the King and dignitaries.

With the increasing number of EPs being produced, Special Interest Groups (SIGs) have been established. To date, 11 SIGs have been established, including Emergency Trauma Care, Paediatric Emergency Medicine, Disaster Medicine, Clinical Toxicology, Clinical Toxinology, Emergency Medicine Critical Care, Prehospital Care, Simulation in Healthcare, Geriatric Emergency Medicine, Neuroemergency and Wilderness Medicine.

These SIGs are the 'engines' that drive the advances of emergency care in Malaysia. Since their inception, the SIGs had been very active with numerous local and international activities. The SIGs helped push the boundaries of expertise and skills in emergency medicine to a higher level. They exist not to compete, but rather to complement the growth of emergency medicine as a whole.

In 2021, Universiti Teknologi MARA (UiTM) became the fourth university to offer the MMed (Emergency) programme and took in its first batch of students.

By July 2024, 740 EPs had been produced in Malaysia. Of these, 65 EPs work in private hospitals. By this time, 70 Ministry of Health hospitals have EPs. In the academia, a total of 107 EPs work in local universities. Out of these, six work in private universities, Ten EPs are currently working in Malaysian Military Services. Three are working in foreign countries as consultants.

## The Impact of Emergency Physicians in Malaysia

EPs have transformed how emergency medicine is practiced in Malaysia. The Malaysian Triage System was introduced in the EMTS policy. EPs also lead in planning for disaster responses, including chemical, biological, radiological, nuclear, and explosion events.

They were also valuable resources and subject matter experts who thrived in simulations and drills for such situations.

EPs also liberated the practice of point-of-care ultrasound with international collaborations such as the World Interactive Network Focused on Critical Ultrasound (WINFOCUS) to simplify its use, particularly in emergency and critical care. They train clinical ultrasound for doctors from multiple specialties.

More complex procedures such as advanced ventilator management, emergency regional anesthesia, emergency bronchoscopy, pericardiocentesis, advanced trauma resuscitation, clinical toxicology and toxinology practice, advanced pediatric emergency medicine and many more have been incorporated into practice following EP training in subspecialty programs. EPs have run many workshops in this regard. They also lead multiple forms of life support programs throughout the nation. They play crucial roles the National Committee of Resuscitation Team. Malaysian Resuscitation Association (MyRES) was established, in significant part, by the hard work of EPs networking with various specialties.

EPs also championed the establishment of thrombolysis for STEMI patients and networks. EPs also play a significant role in stroke protocols by collaborating with other specialties. Social emergencies, such as handling and ensuring the medicolegal needs of rape, domestic violence, and child abuse, were also championed by EPs. One-Stop Crisis Centres (OSCC) were established in all major emergency departments in Malaysia.<sup>4</sup> Ambulance services were also transformed with advanced call centre protocols and helicopter services.

EPs in Malaysia had also published in high-index international journals and made contributions to major textbooks in emergency medicine and critical care. They had also been appointed as personal physicians for royal families at both the state and federal levels, reflecting the trust that the government have for EPs. EPs also lead medical support for major sports events such as the Commonwealth Games in 1998 and the SEA Games in 2017. They were also involved in motorsport championships as consultants.

Currently, at least nine full Professors in Emergency Medicine and at least 14 Associate Professors are practising in local universities. Regarding title conferment, there is one Dato' Seri and six Datukships among CEP members.

Apart from academic activities, CEP inserts humanistic values by organizing Humanity Poetry Night, which provides a platform for medical personnel to read poems on humanity that involve local and international participants. CEP has also undertaken 'Preventive Emergency Medicine' initiatives by organizing regular webinars on subjects relevant to the society. A healthy lifestyle campaign, such as a 10,000-steps daily walk, was introduced to create healthier Malaysians, leading to less need for emergency care, thus reducing overcrowding. This ripple effect inspired the public to create 'brisk walk' communities in 2024 that attracted more than 100,000 people to adopt a healthy lifestyle.

In 2024 too, with hard work by CEP council members, Malaysia won the bid to host the International Conference on Emergency Medicine (ICEM) 2027 – the world's largest and most prestigious conference for emergency medicine. The CEP looks forward to making it the best event for the world fraternity of emergency medicine and showcase Malaysian EP achievement on the world stage.

### Future aspirations

Through CEP, with the support of all in the fraternity and the AMM, the specialty is expected to grow stronger. CEP aims to establish a strong culture of research, collaboration, networking, and engagement with technological advancements such as digitalization and artificial intelligence to make this medicine relevant, fresh, and dynamic. Considerable work is required to ensure that the science and art of the practice evolve and expand continuously to be comparable with the best benchmark of international standards.

CEP is determined to play a role in this process. It resolves to ensure that both the fraternity and the community benefit from its existence and propel the standard of emergency care in Malaysia upwards and beyond.

While there is much work ahead, the unity of the fraternity is our strength. There are countless gaps to bridge further, but if the fraternity keeps being united, we could break any barriers, soar higher, and fly on the highest skies in this special medicine called 'emergency medicine.'

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## DECLARATION OF INTEREST

The author declared there are conflicts of interest regarding the publication of this paper.

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