



## PIONEERING LOCAL PAEDIATRIC EMERGENCY CARE:

# KKH Children's Emergency

### INTRODUCTION

The Children's Emergency (CE) at KK Women's and Children's Hospital (KKH) started operations on 10 May 1997, Saturday, concurrently with the opening of the first consolidated Children's Hospital in Singapore and the region.

Dr Sim Tiong Peng was the first Head. As an emergency department (ED) physician, he had a special interest in paediatric emergency and was appointed Head-Designate in 1995. I (A/Prof Ng Kee Chong) subsequently joined Dr Sim to help spearhead the setting up of CE and Dr Angelina Ang joined the team shortly after. The three of us went on to craft and build CE from scratch in the span of about 18 months. Dr Tham Lai Peng joined CE in 1998, with Dr Lee Khai Pin joining the team much later in 2009.

### A BRAND NEW DISCIPLINE AND DEPARTMENT

Given the opportunity to set up a new discipline and department, the team worked on an open canvas with only rules to be set up and none to be broken. The key role in CE, to put it simply, was to effectively "identify, stabilise and treat" paediatric patients – or in Latin "*agnosco, stabilisio and tracto*".

Prior to this, the EDs of general hospitals dealt acutely with paediatric emergencies. Singapore General Hospital (SGH), through Prof V Anantharaman and Dr Sim Tiong Peng's efforts, pioneered paediatric emergency care in the early 1990s by having a section within its Priority Level 3 area (the P3/"Yellow" area) to deal with paediatric cases.

We merry band of three went round getting views and input from the key clinician stakeholders, including Prof Vijeyakaran Thuraisingam Joseph from Surgery, Prof Lee Eng Hin from Orthopaedics, Prof Foo Chee Liam from Plastics, A/Prof Balakrishnan Abhilash from Otolaryngology and Dr Vivian Balakrishnan from Ophthalmology, among others. Operational and process issues were discussed and clinical workflows were customised accordingly.

Under Dr Sim's leadership, the CE Clinical Guidelines were developed, with the very first edition numbering about 100 pages and covering all the essential clinical and operational issues within CE. These guidelines have been revised every six months and now, 19 years on, it runs to about 300 pages in its latest 2016 version.

A very strong nursing team was formed by tapping from the paediatric

nursing pool in SGH, Tan Tock Seng Hospital (TTSH) and Alexandra Hospital (AH). The first three nursing officers were Sisters Lee Choy Kuan, Chia Lai Heng (both from TTSH) and Sister Zainab Amat (from SGH). The Ministry of Health (MOH) posted eight medical officers to the CE, including Dr Angeline Lai (who was then a paediatric trainee), and they were the magnificent pioneering eight.

Based on the existing paediatric numbers from the EDs at SGH, TTSH and AH, it was estimated that the CE load would be approximately 150 patients a day. However, on hindsight, this number was a vast underestimation. With the beacon of a truly full-fledged children's hospital – the very first of its kind in Singapore and the region – the masses would naturally flock to CE, regardless of the acuity of the paediatric medical complaints. Furthermore, in 1997, the Government had decided to raise the definition of a child from the erstwhile 12 years old and below, to 16 years old and below.

Also, it is well known that in all paediatric emergency departments internationally, a sizeable number of patients are what some would term "social emergencies". These medically benign cases are deemed serious in the eyes of worried, concerned and

anxious parents and caregivers, and form a substantive proportion of our CE patients locally.

## TWO DECADES ON

We have not looked back since the official opening of the department. KKH CE has never had a day with an attendance below 200 and has even reached peaks of 1,000 patients on Chinese New Year's Day.

There have been many challenges throughout the years, especially in dealing with the ginormous crowd with high expectations. We constantly tweak our processes and remain focused on delivering prompt care, especially to our P1 and P2 patients. In spite of the storms and challenges, we achieved recognition as the Best ED in the MOH's Patient Satisfaction Survey in 2008/2009. We also renovated to expand our capacity to cope with the patient numbers that appear to be creeping up again after seemingly being stabilised in 2013 and 2014.

By sheer numbers, we are probably one of the busiest EDs in Singapore. Of course, the comparison with the general EDs is not congruent. General/adult EDs clearly deal with P1 and P2 patients who are more seriously ill and deserving of a higher acuity of care. In CE, the main load is our P3 patients. While of a much lower acuity, the high CE P3 load is not easy to handle in a different respect. One needs to spend far more time to engage and communicate with the families of P3 patients than with a seriously ill P1 patient. For a critically ill P1 patient, the response is reflexive and protocol-driven, with immediate resuscitation, intubation and admission, utilising more endogenous adrenaline but technically a lot less time.

We recall some P3 and non-urgent cases that take up significantly more time to understand and manage: the fearful 18-year-old first-time mother barely coping with the care of her newborn and pleading for admission

for respite care; the autistic child being coaxed by three caregivers, two doctors and two nurses to allow the removal of a nasal foreign body; the six-year-old boy with multiple contusions and cane marks all over his body speaking up defensively for his mother, who was the alleged perpetrator of the non-accidental injury; and the mother of a student wanting to register her child to get a medical certificate to excuse him from the Chinese Language Primary School Leaving Examination. Despite the frustration and angst when dealing with these patients and caregivers then, one would always recall these incidents with a bittersweet aftertaste, a sigh of relief and the slightest hint of a smile at the corner of the mouth.

Providing appropriate and optimal acute care to our paediatric patients is now part and parcel of our DNA and we daresay, part of our culture at CE – and of this we are especially proud. The next step forward is to develop a more comprehensive and integrated ecosystem to better right-site acute paediatric care, by working closely and collaboratively with the community.

We are proud to have pioneered paediatric emergency care in Singapore and the region. After we started CE in 1997 at KKH, National University Hospital followed suit in 2003 with its own children's ED to complement its paediatric medicine department.

Today, we are proud to be leading and driving the curriculum and training in paediatric emergency care for the community, as well as for medical students, nurses and paramedics in Singapore and the region.

In leaps and bounds, paediatric emergency medicine is now clearly recognised as an important discipline not just in emergency medicine but in paediatrics and family medicine practice in Singapore. ◆

### PROFILE



TEXT BY

## ADJ A/PROF NG KEE CHONG

Adj A/Prof Ng Kee Chong is chairman, Division of Medicine (KK Women's and Children's Hospital), senior consultant and campus director (Medical Innovation & Care Transformation), adjunct associate professor and paediatric programme lead at Duke-NUS Medical School, Singapore, and core faculty at SingHealth Paediatrics and Emergency Medicine Residency programmes.



TEXT BY

## DR LEE KHAI PIN

Dr Lee Khai Pin is the head and consultant of the Department of Emergency Medicine, KK Women's and Children's Hospital, Singapore.