



# Highlights from this issue

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Mary Dawood, Associate Editor

## Palliative care in the ED

Heart failure, a common presentation in the ED is associated with significant morbidity and mortality. This is a patient group that have a poor quality of life and would benefit from early palliative care but it's not often considered in the ED for various reasons. So, it was interesting to read a study by Lewinski and colleagues from Canada, they sought to evaluate the use of palliative care services in patients with heart failure presenting to the ED. The primary outcome studied was palliative care involvement. Secondary outcomes of the study were: (1) 1 year mortality, (2) ED visits, (3) hospital admissions, and (4) Heart Failure Clinic involvement. They conducted a health records review of 500 heart failure patients who presented to two Canadian academic hospital EDs. Unsurprisingly, they found that few heart failure patients had palliative care services. Additionally, the majority of those that had palliative care involvement did not meet current recommendations for early palliative care involvement in heart failure. The authors suggest that the Emergency Department may be an appropriate setting to identify and refer high risk heart failure patients who could benefit from earlier palliative care. Although a small study of only two hospitals, this thought provoking paper is well worth a read as it raises questions about the function of emergency care in the future. There is little doubt that increasing longevity and more effective management of chronic disease calls for greater palliative care knowledge and skills in ED Clinicians. Thus we will need to engage more with the palliative specialty as there is much we can learn from them.

## Performing sit down medicine in a stand up place, Is it time for palliative care in the emergency department ?

Do also read this well considered commentary on the Lewinski paper by Eric Adler from the USA. Adler acknowledges the need for palliative care for heart failure patients and suggests possible reasons why so few benefit from palliative care. Perhaps more pertinently to ED clinicians, he discusses the challenges in terms of time and the resources needed in initiating palliative care discussions in the pressured environment that is most EDs' and proposes possible solutions. This is something most ED clinicians will identify with.

## Paramedic diagnostic Skills

It's good to see a number of interesting pre-hospital papers in this issue. The first paper evaluates the diagnostic skills of paramedics. Paramedics are involved in assessing, treating and diagnosing patients. They use diagnostic tools such as electrocardiograms or blood glucose tests to determine immediate treatment and transportation. Accurate diagnosis is important in life-threatening and time dependent conditions. It is also relevant for non-life-threatening conditions, especially where it may be appropriate to see and treat or direct patients towards alternative transport and alternative healthcare destinations. Wilson *et al* in the UK undertook a systematic review of published literature to provide an overview of how accurately paramedics diagnose patients compared with hospital doctors. A bivariate meta-analysis was incorporated to examine the range of diagnostic sensitivity and specificity. Eleven studies were included after full-text review. Their review of the literature suggests that diagnoses made by paramedics have high sensitivity and even higher specificity. However, the paucity and varying quality of studies calls for further pre-hospital diagnostic accuracy studies especially in the field of non-life-threatening conditions. Its worth remembering these findings the next time we doubt the paramedics' account.

## How safe are pre -drawn medications?

Prehospital medical teams frequently need to administer a range of medications for urgent stabilisation and treatment. Preparing such medications safely takes time and requires attention to detail and the potential for error in resuscitation and urgent scenarios is always a concern.

In one HEMS and two road prehospital services in Australia which deploy physician-paramedic prehospital medical teams, medication errors are mitigated by pre-drawing commonly used medications to set concentrations daily. To date it's not known if such practice is microbiologically safe. So, it was intriguing to read a study by Soeyland *et al* sampling and performing microbiological cultures of pre-drawn medications used by these two prehospital services. A convenience sample of 299 pre-drawn medication syringes with syringe dwell times up to 48 hours were collected at the end of their operational deployment.

Pre-drawn medication syringes collected for culture were ketamine, midazolam, fentanyl, thiopentone, rocuronium, suxamethonium, metaraminol and normal saline. The samples were incubated and cultured at a tertiary hospital pathology laboratory using best-practice methodology for non-tissue samples. None of the 299 cultured samples yielded significant micro-organisms. One sample of suxamethonium with a syringe dwell time of 34 hours grew *Bacillus cereus* but was likely a contaminant introduced during sample collection. They concluded that pre-drawing of the eight studied medications for urgent prehospital procedures appears to be a microbiologically safe practice with syringe dwell times up to 48 hours. This may be a safety initiative worth considering for our pre-hospital teams.

## HEMS provision in Europe

Helicopter Emergency Medical Services (HEMS) is well recognised as an effective means of transporting sick and injured patients to appropriate specialist care. We might expect such services to be available in most western health economies but it seems this might not be the case. In order to inform further development of emergency care systems, Jones *et al* from Scotland undertook a study to evaluate variations in HEMS provision across Europe. Their survey included primary HEMS in the 32 countries of the European Economic Area and Switzerland. HEMS provision was calculated as helicopters per million population and per 1000 km<sup>2</sup> land area, by day and by night, and per 10 billion US\$ of gross domestic product (GDP), for each country. They found large variation in the number of helicopters available for emergency care within Europe. The smallest and poorer countries had no dedicated HEMS provision. Luxembourg had the highest number of helicopters by area and population, day and night. Alpine countries had high daytime HEMS coverage and Scandinavia had good night-time coverage. Most helicopters carried a doctor. Funding of services varied, and did not seem to be clearly related to the availability of helicopter emergency medical services. It's reassuring to know the Alpine region is well covered especially if you are considering skiing or mountaineering this winter but it would seem there is some way to go ensure more equitable HEMS across Europe as a whole.

