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# Highlights from this issue

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## Restart a Heart

What do you have planned for October 16? Perhaps it's a shift, or a few meetings, or a day of walking? All important, but perhaps you can spare a few minutes that day to encourage someone you know to take a CPR class? Or you can call the school your children go to and ask when they are going to start teaching CPR (and volunteer to help!). October 16 is European Restart a Heart Day, and in anticipation, we've included four articles in this issue—commentary and research—from international authors highlighting failures and opportunities to improve on bystander involvement in emergencies. Professor Tzi Bun Ng discusses the tragedy of a middle-aged woman who collapsed in a busy Chinese subway station but neither bystanders nor station employees came to her aid. The study by Vaillancourt, and a systematic review by Zhimin He *et al* provide data on teaching first aid and resuscitation to the oldest and youngest among us. Andrew Lockey provides a commentary making a very good case for teaching CPR in schools.

## Predicting ambulance journey times

Reconfiguration of emergency services is a topic that regularly attracts a lot of attention in *EMJ*. The potential benefit to patients from centralising specialist care needs to be balanced against the potential harm caused by increasing ambulance journey times. This means that before services are reorganised we need to estimate the impact of reorganisation upon ambulance journey times. An obvious way of doing this is to use commercially available Geographic Information Systems (GIS) software to estimate journey times, but do these estimates provide an accurate reflection of emergency ambulance journey times? McMeekin and colleagues compared GIS predictions to recorded times for 10 156 emergency ambulance journeys and found that the mean prediction discrepancy between actual and predicted journey times was an under prediction of 1.6 min. This difference is unlikely to be clinically significant and suggests it is reasonable to estimate journey times for service planning using generic GIS software. However, if you are thinking of using GIS software to predict the journey

time of a specific patient to your hospital, then it might be worth bearing in mind that an average may not reflect substantial variation in the individual data.

## Laryngeal mask airway or endotracheal intubation?

Endotracheal intubation may be seen as the gold standard for securing and protecting the airway but high failure rates and the risk of complications have led to concerns about use in the pre-hospital setting. As a consequence the laryngeal mask airway has been suggested as an alternative. Bosch and colleagues evaluated the use of a laryngeal mask airway in 50 patients in the Dutch ambulance service and report a 100% success rate with 98% success at the first attempt. This suggests potential for the laryngeal mask airway to provide better airway control than endotracheal intubation but randomised data are clearly required to determine comparative effectiveness. The scene is set for a trial of pre-hospital airway management—is anyone bold enough to take on the challenge?

## Point of care testing—is it worth the cost?

Point of care devices can provide quicker availability of results and shorten emergency department length of stay but usually incur increased costs compared to laboratory testing. It is tempting to assume that a point of care test that provides results an hour earlier than the laboratory will reduce length of stay by an equivalent amount. However, randomised comparison is required to test this assumption. Asha and colleagues randomised 811 patients to receive either point of care or laboratory testing and found that point of care testing was associated with mean reductions of 26 minutes in time to disposition decision and 20 minutes in emergency department length of stay. Mean pathology costs were \$12 higher in the point of care group, so \$113 was being paid per hour saved in time to disposition. This adds up to a lot of dollars but also a lot of potential time saved across an emergency department population. Careful consideration is required to decide whether such expenditure is worthwhile.

## Diuretic administration in acutely decompensated heart failure

Intravenous diuretics are often used in acute heart failure. The intense urine output achieved after administration is often viewed with satisfaction by the clinician, if not the patient. Llorens *et al* aimed to determine the effect of different administration strategies upon diuresis and a number of secondary outcomes in a randomised controlled trial of 109 patients with acutely decompensated heart failure. They found that continuous infusion produced a greater 24 hour diuresis than bolus administration but was more likely to result in hypokalaemia. There were no significant differences in improvements in clinical symptoms or signs between the three groups. This raises the question of whether there is any causal association between producing a substantial diuresis and improving relevant outcomes in acutely decompensated heart failure.

## Lumbar puncture for suspected subarachnoid haemorrhage

This is another topic that engenders strong debate, often between those with contrasting perspectives of the problem. Emergency physicians see a large unselected group of patients often indiscriminately investigated with CT and doubt whether all those with negative CT really need lumbar puncture. Neurologists and neurosurgeons see the highly selected group with positive tests, including those with negative CT but positive lumbar puncture, and conclude that failure to perform lumbar puncture is unthinkable. Stewart and colleagues add some more data to inform the debate. In a cohort of 244 patients investigated for suspected subarachnoid haemorrhage they found that the sensitivity of CT for subarachnoid haemorrhage was 93.8%, rising to 95% if limited to scan performed within 12 hours of ictus. This suggests that CT alone is inadequate to rule out subarachnoid haemorrhage when it is suspected. The question remains though—when should we suspect subarachnoid haemorrhage? The prevalence of subarachnoid haemorrhage in the study cohort was 29%. If clinicians were able to select such a high prevalence cohort for investigation the debate about lumbar puncture would become largely irrelevant.

