# Primary survey: Highlights from this issue

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Welcome to this month's EMJ containing a range of diverse papers to influence your clinical management or change your thinking. Not every published manuscript is a game changer but there are certainly some valuable papers here to enable you to reflect on your current management and guide quality improvements in your Emergency Department.

## This month's 'Editors Choice'

This month's paper and the associated commentary, features a survey of over ten thousand emergency physicians (EP) in China who were asked to self-report medical errors in the last 3 months and their current levels of occupational stress. The headline figure is 43% of EP's reported perceived medical errors. There was an association between over-commitment, negative affect, workplace aggression, a shortage of physicians, and poor physical health. It is well known that the Emergency Department is a high-risk environment for medical error due to the high-acuity of patients, time-critical decision-making, frequent interruptions and overcrowding. My reflections on this paper are as well as improving the working environment to reduce the rates of medical error, how do we protect our colleagues from becoming the second victim after a clinical incident?

## Mortality risk factors in blunt chest wall trauma

The profile of blunt chest wall trauma is changing from young patients with high mechanisms of injury to older patients with falls. There are several clinical risk stratification tools available to guide the need for admission, advanced analgesia or transfer to a trauma centre. These focus on age over 65 years, three or more rib fractures, and pre-existing lung disease. Our 'Readers Choice' by Battle and colleagues is an updated systematic review which identifies that, despite changing demographics in this patient group, the main risk factors for mortality remain unchanged. Extremes of body mass index and smoking status may be relevant but require more research.

## Concomitant fracture predictors in shoulder dislocation

Imagine you are in a remote location and your friend has dislocated their shoulder – would you reduce without an x-ray? What if you are working in the ED, looking after a patient with recurrent shoulder dislocation and there is a significant queue for radiology delaying reduction? Before you answer, read the systematic review for clinical predictors of concomitant fracture in patients with shoulder dislocation and see which demographics, clinical findings and mechanism of injury might be important to inform your management plan.

## Risk assessment models for VTE risk in temporary lower limb immobilisation

Temporary immobilisation of the lower limb is a risk factor for venous thromboembolism and current guidelines recommend a structured risk assessment with prescription of thromboprophylaxis for high-risk patients. The problem is that there are many different published risk assessment models with varying inclusion and bleeding risk criteria. A team from Scotland undertook a service evaluation of the Aberdeen VTE risk tool prospectively over 6 years with an incidence of 0.85% patients suffering symptomatic VTE and 59.7% being recommended for prophylaxis. They also assessed the diagnostic performance of other published risk assessment models as a comparison. The study raises some interesting considerations around the discrepancy in performance between current models in the same population, errors in interpretation or adherence to a tool by clinicians, and a rate of VTE despite thromboprophylaxis.

## Association of QTc and calcium levels

It's a common exam question in Emergency Medicine to list the ECG changes caused by metabolic abnormalities. Hypocalcaemia can prolong the corrected QT-interval and hypercalcaemia can shorten it, but is there a reliable correlation seen in the diverse patients attending the Emergency Department? A prospective observational study in Sweden reviewed 61 015 patients with hypocalcaemia found in 0.7% and hypercalcaemia in 2.6% patients. The authors identified that in their ED patient group, calcium fluctuations only had a minimal influence on the QTc and conclude that the ECG is not reliable to distinguish patients with abnormal levels.

## Barriers to BPPV management

Patients with benign paroxysmal positional vertigo (BPPV) can benefit from diagnosis using the DixHallpike test and treatment

with the Epley manouevere or other canalith repositioning procedures in the ED. However it is often difficult to remember how to perform and interpret them without regular practice. A qualitative study performed in a single ED in Australia (which had embedded physiotherapists) assessed the barriers and facilitators to the recommended management of BPPV in the ED. Results may not be generalizable to departments without physiotherapy support but remind us of the value of vestibular physiotherapy as a rapid and often effective management for BPPV we can undertake in the ED.

## AMS susceptibility and menstruation

Finally, a study from an inspiring expedition in which 48 international female athletes trekked to the summit of Mount Kilimanjaro to set a world record for the highest altitude soccer match to raise awareness of gender inequality. It has been suggested that menstrual hormones may increase a woman's susceptibility to developing acute medical sickness (AMS) but this small study did not find any correlation between menstruation and the incidence of AMS or any effect of prophylactic acetazolamide therapy. Importantly, the team proudly retain the world record today.

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