

Pathway bundles can make a difference

This study, set in a medium sized district general hospital, found that for patients aged over 17 years with 2 or fewer diagnoses, the use of pathway bundles led to increased bed usage and improved length of stay when used from November 2006 to January 2007. The authors found that patients with acute coronary syndrome (ACS) and ST elevation myocardial infarction (STEMI) had reduced length of stay irrespective of their age and comorbidity. In individual disease-specific pathways, length of stay was reduced not only in ACS and STEMI but also sepsis, unlikely MI and upper GI bleed (in those with 2 or fewer diagnoses). Overall, in the group of patients with 2 or fewer diagnosis, up to 5.9 beds could be saved per day, an improvement by 2.5% (CI 0.25% to 4.38%) in medical bed usage. The authors intend to repeat the study to ensure that the effects are sustained and to assess the longer-term benefit. Worth watching out for! (*see page 479*)

Being prepared for 'flu

This practical and considered article looks at the top 10 steps in making sure that your ED is ready to deal with pandemic influenza. The article followed a visit by the UK authors to Hong Kong to learn about the experiences of ED and ITU colleagues in managing the SARS outbreak. A key factor for EDs in being able to deal with challenging situation was to ensure that staff was prepared. The steps in being as best prepared as possible include: having ED representation at the highest managerial level within the hospital, briefing staff about the pandemic condition, testing the appropriateness of the masks to each member of staff, having a training programme in the use of personal protective equipment, ensuring that there are suitable levels of stock, having processes in place for dealing with potentially infected patients, considering how the roles in the hospital and within the ED may change during the pandemic including an effective method of communicating with staff, taking steps to maintain morale, and considering and discussing the ethical decisions that may be required. This is a thoughtful and helpful document that all ED staff need to look at and apply to their own setting, in addition to guidance provided by the

Department of Health and Health Protection Agency (*see page 497*).

MTS or ATS for Australia?

The Australasian Triage System (ATS) comprises a five point system of triage and is used extensively in EDs in Australia. This system asks the triage nurse to apply a category in response to "This patient should wait for medical assessment and treatment no longer than ...", the decision being aided by a short description of each category and a small number of indicative clinical indicators. The authors state that this system of triage relies on the clinical experience and intuition of the triage nurses. As a comparison, the authors choose to examine how the Manchester Triage System (MTS) might fare, as it uses 52 flow charts which are used algorithmically to determine a triage category for the patient's presenting condition. In Nepean Hospital, Penrith, Australia, the authors studied the level of agreement in 20 nurses trained in MTS, when independently triaging the presentations of 50 consecutive patients. By using this number, the authors felt that a true representation of the "triage profile" of the department was achieved. There was a range of agreement of kappa scores between 0.4007 to 0.8018, with a median score of 0.6304, meaning that there was fair to substantial agreement. The authors cite these figures to be better than those published for the levels of agreement when using ATS. They are considering extending this work, to look at different triage systems as part of a multicentre study as they have concerns about the use of ATS (*see page 484*).

Comparing the neurological outcomes of witnessed out of hospital VF: monophasic versus biphasic AED

This paper suggests that biphasic defibrillation is associated with an improved outcome for survival with good neurological recovery or moderate disability at one month as compared with patients defibrillated by monophasic waveform defibrillation AED. This study, a prospective population-based cohort based on a 4.4 million people in the Osaka Prefecture, Japan, was conducted from the beginning of December 2003 to the end of April 2004

in witnessed out-of-hospital cardiac arrest patients. The data were collected in Utstein format and the timings of the patient collapse, initiation of bystander CPR and the time of defibrillation were recorded. The primary outcome neurological outcome was either good recovery or moderate disability at one month following the event. Thirty patients were defibrillated by monophasic AED, compared with 44 by biphasic AED. Termination of VF was more likely to occur with the first shock by biphasic rather than monophasic (OR 2.3, 95% CI 0.8 to 6.6, $p = 0.14$), albeit that the CIs are large with the lower margin being less than 1. The median time to the delivery of the first shock from application of pads to the chest was shorter with the monophasic AED (15 seconds IQR 9–29 s as compared with 23s IQR 21–32), but from first to second shock was longer in this group (67s IQR 47–112s) as compared with the median biphasic time (24 s IQR 22–28s). There were more patients who had ROSC at hospital in the biphasic defibrillated group, 29/44 than the monophasic group (8/30), (OR 5.3, CI 1.9 to 14.8 $p = 0.001$); the former group had higher one month survival too, at 13/44 compared with 3/30 (OR 3.9, 95% CI 1 to 15.2). Neurologically favourable survival was more common in the biphasic AED group, (10/44) in comparison with the monophasic group (1/30), (OR 7.9 95% CI 1 to 65, $p = 0.04$). This is an observational study that supports the supposition that there are advantages to biphasic defibrillation in the "real world" setting (*see page 492*).

Roll me over!

The case report of a trauma patient, who was under the influence of alcohol and found himself 1.5 miles from the pub with significant injury, provides salutatory lessons—particularly in regard to doing a log roll and managing subsequent strange findings. With an uncertain mechanism, non-tender crepitus over the cervical and thoracic spinal prominences, the team kept the patient immobilised until such time as imaging could be safely conducted and the injuries properly investigated. The ATLS mantra "drugs, alcohol, distracting injuries may mask an injury", the need to understand the symptoms and signs that are presented by the patient, and remembering to do no harm are the lessons in this casebook (*see page 539*).