



## From the prehospital literature

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## From the prehospital literature

Edited by Malcolm Woollard



### Better stress management

Critical (traumatic) incidents are a key source of stress for emergency services (EMS) personnel. This qualitative study, one of the few in the EMS literature, explored the “need for critical incident stress interventions”, “types of interventions” and “barriers to interventions” perceived by 60 emergency medical technicians (EMTs) and their supervisors from a Canadian service. Interview and focus group data revealed the EMT participants “want emotional support from their organization immediately after critical incidents”, and that the best support includes “supervisor support” (previously cited in the EMS literature) and a “timeout period”. The latter has not previously been cited in the EMS literature, but has been proposed as beneficial to police, physicians and surgeons. Beneficial “supervisor support” involved acknowledgement of the incident as critical, valuing the work of the EMT, concern for the well-being of the EMT and willingness to listen and offer material help. “Timeouts” facilitated an early reduction in emotional arousal and included a time to relax, decompress and discuss the incident with peers. “Barriers” included unsupportive supervisors, operational pressures preventing timeout and an organisational culture stigmatising vulnerability. The authors suggest that education on stigmatisation and how to recognise and manage critical incident stress might be beneficial in the EMT workplace. Ongoing phases of their research will explore this.

Leanne Hamilton, Charles Sturt University, Australia

► Halpern J, Gurevich M, Schwartz B, *et al.* Interventions for critical incident stress in emergency medical services: a qualitative study. *Stress and Health* 2009;**25**:139–49.

### Heavy breathing: what does it mean?

In an educational review of 20 published articles centred on patients' respiratory rates (RR), the authors conclude that, in unstable patients, relative changes in RR were much greater indicators of a high risk of a future adverse event than changes in either heart rate or systolic blood pressure. Within the hospital setting they recommend that adult patients with an RR >24 should be monitored closely and reviewed regularly even if other vital signs are normal. Patients with either an RR >24 and evidence of physiological instability or an RR >27 require immediate medical review. They note that RR change, often precipitated by hypoxaemia and hypercapnia, is a compensatory mechanism which is often indicative of severe derangement in more body systems than just the respiratory system. They argue that pulse oximetry is not as reliable an indicator of well-being as is commonly believed, and they view it as a complementary adjunct rather than as a substitute indicator for a patient's condition. Intuitively, it seems reasonable to apply these same guidelines within the prehospital setting. The importance of RR as a predictor of a serious event requires paramedics to accurately assess (and record) this important vital sign.

Tony Donnelly, Charles Sturt University, Australia

► Cretikos M, Bellomo R, Hillman K, *et al.* Respiratory rate: the neglected vital sign. *Med J Aust* 2008;**188**:657–9.

### When experience counts

A study performed in King County, Washington, USA investigated whether improved survival rates for ventricular fibrillation (VF)

out-of-hospital cardiac arrests (OHCA) correlated with paramedics' years of experience. The authors retrospectively reviewed 699 bystander-witnessed OHCA. One paramedic acted as a technician (doer) while the other was the clinician (decision-maker). Logistic regression was used to establish odds of patient survival, along with the association between patient survival and years of experience. The experience of the clinician paramedic (mean (SD) 9.9 (7.9) years) had no significant impact on survival (OR 1.01, 95% CI 0.99 to 1.03); however, the experience of the paramedic performing technical procedures (mean (SD) 10.4 (7.4) years) was associated with a 2% per year increased likelihood of survival (95% CI 1.00 to 1.04). The combined experience of both paramedics (mean (SD) 20.3 (10.8) years) showed a 1% per year increased likelihood of patient survival (95% CI 1.00 to 1.03). The limitations of the study include uncertainty as to whether paramedics swapped roles, and it did not examine the impact of procedures performed. King County paramedics have a wider scope of practice than many other EMS systems, potentially limiting the generalisability of this research. Although the authors state that their findings are preliminary, they do suggest that there may be a correlation between a paramedic's level of experience and patient survival in VF OHCA.

Scott Devenish, Charles Sturt University, Australia

► Gold LS, Eisenberg MS. The effect of paramedic experience on survival from cardiac arrest. *Prehosp Emerg Care* 2009;**13**:341–4.

### Verbal do-not-resuscitate orders: a good policy for the prehospital care environment?

The majority of the 400 000 patients who suffer non-traumatic cardiac arrest in the USA each year do so in the out-of-hospital environment. Recently, the Los Angeles County Emergency Medical Service (EMS) implemented a new policy regarding verbal do-not-resuscitate (DNR) orders. The policy gives surrogates of the patients with a cardiac arrest the right to verbally request EMS officers to “forgo resuscitation”. The study was conducted to identify the prevalence of “at-home” cardiac arrests, written DNR orders and the availability of family members. This single-county study looked at 897 cardiac arrests of which 492 occurred in the home between August 2006 and January 2007; 102 patients (22%) in the study had “unknown” documented as the location for the cardiac arrest. Fifty-five of the 492 patients who had at-home cardiac arrests had written DNR orders. Of the 55, 10 were resuscitated either because the DNR paperwork was not available or because the family had requested treatment. The study found written DNR orders were uncommon in the out-of-hospital environment, although patients were often resuscitated despite family members with DNR orders being present. The study concluded that some family members at the at-home arrest “may be able to express the patient's wishes regarding end-of-life care”.

Victoria Madigan, Charles Sturt University, Australia

► Grudzen R, Koenig WJ, Hoffman JR, *et al.* Potential impact of a verbal prehospital DNR policy. *Prehosp Emerg Care* 2009;**13**:169–72.

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