

empowerment, this might prove to be effective. Lastly, there is a need for process documentation to demonstrate how the team's unity of efforts, respect and trust for each other, and collegiality, as well as transparency in the team's efforts, are working and being developed, and how inter- and trans-disciplinary concepts are emerging.

**Keywords:** autoimmune deficiency syndrome (AIDS); documentation; education; governance; health rights; human immune virus (HIV); interest; network; presentation; teams; transparency

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### Caring for the Carers – Increasing Resiliency in the Field

*Amanda Allan; Di Bretherton; Prasuna Reddy*  
University of Melbourne, Melbourne, Australia

**Purpose:** To make salient the importance of the role of structured-team, peer support in improving the resiliency of medical volunteers.

Based on qualitative research currently being conducted in the Psychology Department at the University of Melbourne, this presentation reports on the team factors identified by medical, humanitarian-aid volunteers as significant in contributing to levels of welfare and psychological resiliency in the field. Overwhelmingly, medical volunteers have identified team support in the field as an essential element to improving their efficiency and in defusing cumulative stress whilst on a mission.

Leading on from a presentation of the findings of the research, the principles of a practical working model of peer support are presented as a means by which an expatriate team working together in the field, can implement a more structured team support process in a relatively informal way, but one aimed to optimize a greater level of support for the individual members of that team.

**Keywords:** field; methods, qualitative; peers; psychology; resiliency; stress; support; teams; volunteers; welfare

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### The Human Factors Team and Accumulative Impact of "Microtrauma" of Daily Practice in Emergency Personnel

*Dr. Daniel L. Mosca*  
Argentine Society for Psychotrauma, Buenos Aires, Argentina

SAME, Buenos Aires EMS, has some 400 ambulance drivers, 70 radio operators and 1,500 doctors. The Human Factors team (psychiatrists and psychologists) treats these emergency personnel who constantly are exposed to chronic and acute stress, and also the general public in the case of major accidents or natural disasters. Experiences in treating the people involved (direct victims, relatives, and the emergency personnel) on the occasion of the October 1997 Austral Airlines DC-9 crash with 70 passengers on board and no survivors, and the August 1999 Lapa Airlines Boeing 737 crash at the Buenos Aires City airport in which 67 people lost their lives and 33 survived, will be discussed. Hypothesis of the Entrapment in the Emergency Work — The SAME personnel constantly are faced with traumatic situations, usually not unique, but daily and accumulative. This constant exposure gives rise to high cortisol levels, catecholamine hyper-secretion, and an increased release of

opioids. In time, high cortisol levels produce depressive upsets, in the same way as the catecholamine depletion which follows long-term hypersecretion.

But, the emergency has another outstanding characteristic: it is a therapy for the very situation it creates or helps to create. At the moment of attending an emergency, a typical fight or flight response situation, cortisol is released, which in its acute form, contrary to the normal chronic depressogenic effects, has antidepressive effects. Furthermore, the release of catecholamines and opioids also has antidepressive results.

Finally, a hypothesis with regard to emergency personnel in which they are caught-up in a vicious circle in their job will be posited. This hypothesis can be upheld from three viewpoints.

**Keywords:** accidents; catecholamines; cortisol; disaster; effects; emergency personnel; opioids; public; stress; trauma

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## Special Forum: New Technologies in Disaster Medicine

*Chair: Dr. David Noble*

Chair: Queensland Chapter for the Medical Device Network

### Rapid Vascular Access Device

*Dr. David Noble, MBBS*

Intuitive Medical Technology

The Rapid Vascular Access Device (R-VAD) is an intraosseous infusion device. Intraosseous infusion is a rapidly growing surgical procedure in an emergency situation for adult or paediatric patients, often replacing traditional infusion for faster and more reliable administration of both fluids and drugs. Typical market-leading brands for intraosseous infusion can be inserted in roughly 70–114 seconds. The R-VAD has an average insertion time of <30 seconds.

Use of the R-VAD devices means fewer specialized devices applicable to a wide range of patients, and easier, faster insertion. The time to insertion potentially may lower total treatment costs by decreasing patient recovery time. Further advantages of R-VAD include: (1) It is designed as a single use disposable with a single or double step insertion process; (2) It is significantly faster to insert than the competition; (3) It is better able to lock and seal than are competitor products; (4) It can be used on children or adults, and inserted into a number of bones; and (5) It can be supplied in a number of different configurations with multiple devices to a pack, at a cost similar to the competitor's unit.

Advantages over currently available products include: (1) Reduced time for insertion; (2) Secure and stable placement (device is not dislodged); (3) More ergonomic, and easier to insert than current products; and (4) Significant reduction in manufacturing and assembly costs.

**Keywords:** costs; emergency; time, insertion; intraosseous infusion device; R-VAD; recovery time

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