

# TRAUMA ANAESTHESIA – LESSONS FROM THE BATTLEFIELD

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Over the past century mortality rates from wounding on the battlefield have been steadily falling. There are many reasons for this, including better understanding of modes of death and identification of preventable fatality. A better understanding of this has led to improved education of the front line troops in buddy care and equipping field medics with skills and equipment to deal with injuries that may have otherwise been fatal.

Another major difference is the pattern of injury. Current conflicts are typified by asymmetrical warfare. That is a coalition of multinational combatants well trained and equipped with high tech equipment and body armour opposed by untrained paramilitary insurgents with little or no training and basic weapons, but with unrestricted mobility and the ability to disappear into the countryside.

The weapon of choice for the enemy is the improvised explosive device (IED) which is placed on roads and footpaths likely to be used by coalition forces. They may be triggered by the victim or remotely, and are indiscriminate as to their victim, often wounding or killing unintended victims such as children.

This all means that a higher percentage of injuries are to the extremities and as such more troops are surviving to reach medical and surgical help. Troops are issued with combat surgical tourniquets and combat buddy care emphasises a different order of priorities: typical trauma teaching is ABC (airway, breathing and circulation); the military approach is MARCH (massive haemorrhage, airway, respiration, circulation and hypothermia).

Surgical facilities in the deployed environment are resourced to manage this injury pattern. The medivac system for patient movement from point of wounding to repatriation is geared to rapid movement to ever-higher echelons of care with well-planned step-wise protocols of care. Damage control resuscitation and damage control surgery is practiced by necessity.

This pattern of injury also provides challenges for post injury analgesia. Phantom pain is common if amputation is needed, but as limb salvage is the priority these wounded troops often have a very painful limb that requires multiple surgeries and a long transfer back to their home country for definitive surgery. In this situation ultrasound guided regional anaesthesia has become the management of choice.

The opportunity to deploy to Afghanistan and to care for wounded NATO soldiers as well as Afghani locals was a great experience. The facilities provided by our allies were well thought out and resourced, which allowed our team to provide first rate trauma care in one of the more isolated places in Afghanistan. It has been an honour and privilege to be able to serve along side the brave servicemen of the ISAF and to have an opportunity to care for them when wounded.

## References

1. Critical care in the austere environment: Providing exceptional care in unusual places. Steven G. Venticinque, MD; Kurt W. Grathwohl, MD. Crit Care Med 2008 Vol. 36, No. 7 (Suppl.) S284-92
2. Tactical Combat Casualty Care 2007: Evolving Concepts and Battlefield Experience. Butler FK, Holcomb JB et al. Mil Med, 172, 11:1, 2007
3. Responding to Challenges in Modern Combat Casualty Care: Innovative Use of Advanced Regional Anesthesia. Alexander Stojadinovic, et al. Pain Medicine, 7, 4, 2006
4. Anaesthesia in Austere Environments. Mellor AJ. J R Army Med Corps 2005;151: 272-276

