Approach to Trauma Care in the Armed Forces

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Published online: 22 March 2012
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Trauma care has been an integral part of any fighting force. Just as weaponry has undergone a tremendous refinement in its delivery and damaging capability, so has the improvement in trauma care over the centuries. Broadly speaking, trauma in the Armed Forces may be non combat or combat trauma. Non combat trauma, like blunt injuries, burns, sports injuries, animal bites etc are akin to those in a civilian setting in presentation and management and do not merit elaboration. Combat trauma as a consequence of missiles, blasts, crushes, flame burns and cold injuries are unique due to the nature of warfare, terrain and peculiar equipment and require discussion. There is therefore considerable variation in the approach to trauma care in the Armed Forces establishments and in the civilian setting.

The nature of injuries sustained, quality of pre hospital trauma care, staged approach and triage, protocol and team based in-hospital management, uniformity of infrastructure and equipment at different echelons, comprehensive post surgical rehabilitation, trauma training and research and administrative awareness—each needs to be highlighted further.

Even during peacetime, the Armed Forces are frequently engaged in warlike training and are therefore subject to the same nature of injuries. Besides, we have had wars and limited conflicts on a few occasions with our neighbours. The Army is also involved in anti terrorist activities for more than five decades in the North East and almost two decades in the J & K Valley. Aid to civil authorities to put

down violence and riots, on several occasions, has led to injuries to our troops. Penetrating wounds due to high velocity weapons, splinters and fragments, low and high intensity blasts, crushes due to falls and heavy equipment, exposure to cold at high altitudes and snow bound areas, and thermal injuries during ammunition handling are all known dangers. These are unlike injuries in a civil scenario where penetrating injuries are predominantly due to sharp objects and low velocity hand guns, blasts are of low intensity at industries and construction sites, IEDs of terrorists and crushes during natural disasters, building collapses or rampaging crowds.

Trauma care in the Services is delivered in a staged manner at several levels after due triage, especially in a mass casualty scenario. Medical resources are minimal at the forward locations and maximal as we proceed rearwards, since this is related to troop deployment and availability of equipment and static infrastructure. So also, the quality of care is one of the best available in large cities as trauma centers and super speciality hospitals are located here. The lowest level of medical care at the forward defence line is by soldiers themselves—viz. self care or buddy care or by a few soldiers trained in first aid called as battle field nursing assistants. The next level is by fully qualified paramedics called nursing assistants placed a few hundred metres or more behind at the medical aid posts. These men are trained to provide quality pre hospital trauma care including triage of the wounded, giving parenteral fluids, analgesics and antibiotics, splints and bandages, cervical collars and limited airway management. The general policy is ‘stay and play’ since casualty transfer to next level of care is dependent on availability of evacuation facilities like ground ambulances and aircraft. The regimental medical officer provides a higher level of care at the regimental aid post, he has adequate quantity of essential equipment and supplies to tackle most emergencies and is in constant communication

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with field hospitals and base hospitals. Intubation, venesection, tube thoracostomy, arrest of haemorrhage and external fixator application are some of the procedures that can be done at this level. Documentation is thorough and transfer to higher centers is done after stabilization.

Pre hospital care is of a high quality since both the paramedics and medical officers undergo training in established hospitals of the Armed Forces and are frequently rotated to both peace and field units to keep them exposed to the latest technology and expertise. Senior specialists and administrators review the quality of care, infrastructure and equipment status during their periodic visits and recommend modernization and upgradation whenever required.

Field hospitals are located further inwards and have a single surgical team consisting of general surgeon and anaesthetist, besides support staff. Basic investigations including sonology and theatre facilities are available to handle most trauma related general surgical procedures. Though well equipped, arrival of multiple casualties can stretch the staff and resources, and reinforcement may be needed from higher echelons. Blood is available at this level onwards and telemedicine facilities have been introduced for better communication. They are trained to follow standard protocols in trauma management so as to have uniformity in trauma care. In jungles and snowbound areas especially in adverse weather like monsoons and heavy snow or fog, connectivity to higher centers can be bad, compelling the surgeon to hold operated casualties for longer duration than he would like. As far as in-hospital management at higher centres are concerned, it is always a team approach with all super specialists available round the clock on call, including a dental and maxillofacial surgeon forming part of the team. Administrative support for handling the umpteen problems that may crop up is done by an efficient team of administrators leaving the surgical team free to care for the casualties.

Comprehensive rehabilitative care is the single most important hallmark of total trauma care. The various artificial limb centres, physiotherapy units and vocational rehabilitation centres complete the job which the surgeons and paramedics initially commenced at the forward lines. Trained physiotherapists, specialists in prosthetic fittings and rehabilitation professionals work wholeheartedly to make the injured fully confident and a useful member of society. Many patients pick up the threads of their life where they left off. Contrast this in a civil setup wherein except in a few centres, rehabilitation is left to the patient himself or to some well meaning NGOs, and therefore several disabling deformities may remain unaddressed.

It is common knowledge that the medical services of the Armed Forces has provided the best possible trauma care over the years. Through a system of built-in checks, balances and accountability, the doctors have adopted a thoroughly uniform and professional approach to casualty care and kept the trauma morbidity and mortality to a level at par with the finest Western Armies as borne out by statistics.

Though trauma training is given to the medical professionals in the Army at various levels depending on occupation and trade, there is still some scope for refinement. This lacuna is being rectified by introducing short courses periodically to doctors in established centers. Research in trauma needs to be improved upon in the long term. Useful interchange of information and knowledge in trauma management is on the rise between the Services and the civilian counterparts both within the country and abroad, and this augurs well for both the groups. After all the ultimate aim is to provide total and holistic trauma care to the injured be it in the Armed Forces or in a non Service setting. In both the areas, there is still an unfulfilled need to improve basic training, trauma care delivery, commence a comprehensive trauma registry and maintain better statistical records.