

## The Emergency Management of Severe Burns course in South Africa

**To the Editor:** One of the most critical tenets of burn care is efficient triage of the victim of severe burns and transfer to a burns unit or centre where resuscitation and definitive care can be most effectively implemented. It is well established that a multidisciplinary team accustomed to managing such patients should undertake this care.<sup>[1-4]</sup>

Introduction of such teams has led to dramatically improved outcomes for patients with major burns over the past three decades. These improved outcomes result from the implementation of key strategies during the acute management phase (Table 1).<sup>[1-4]</sup>

**Table 1. Key management strategies in severe burns**

- Correct initial assessment
- Implementation of effective resuscitation
- Early transfer to specialist burns units
- Intensive care, especially for inhalational injury
- Early excision and skin grafting for deep burns
- Appropriate use of dressings and antimicrobial agents
- Optimal nutritional support
- Simultaneous rehabilitation

Delay in initiation of any of the components listed in the table can have devastating consequences. Units managing burn victims during the resuscitation and referral process should follow protocols to reduce the likelihood of omissions and errors.<sup>[1-4]</sup> Outside specialised units at both district and regional level, gross under- and over-estimations of burn sizes and depths remain commonplace, resulting in inappropriate referrals for minor burns that needlessly utilise scarce specialist resources in tertiary hospitals. Worse still is that patients with survivable major burns are sometimes segregated in side cubicles for 'palliation'. Other errors, all too familiar to burn surgeons receiving these patients, are related to first-aid measures and initial dressings for the burn, and the volume and choice of intravenous resuscitation fluids.<sup>[1-4]</sup>

The above indicates that there is an overwhelming need for the Emergency Management of Severe Burns (EMSB) course. The course is an important component of the South African Burn Society's commitment to improving the standard of burn care in South Africa. A 1-day course in the Advanced Trauma Life Support (ATLS) mould, it has proved to be an extremely helpful aid to healthcare practitioners faced with major burns in any setting.

Since the American College of Surgeons introduced the ATLS course in 1979, there has been an improvement in the quality of assessment, resuscitation and transfer of patients with major trauma, particularly by those who may not routinely be involved

in this care.<sup>[5]</sup> The patient with several injuries may have a major burn injury and vice versa, which is why burns are incorporated into the ATLS course. Nevertheless, it is often observed that primary care physicians and nursing staff either ignore the burn in the presence of another major injury, or neglect a phase of primary or secondary survey because they are distracted by the burn wound.<sup>[1,5]</sup>

It was also the American College of Surgeons that initiated the concept of a focused emergency burns management course in the ATLS mould, with their Advanced Burns Life Support Course (ABLS). The Australia and New Zealand Burn Association (ANZBA) introduced their EMSB course in 1996, designed to assist the healthcare provider with the initial management of burns victims in the Australasian context. Specifically, it recognised that healthcare practitioners practise in a wide variety of circumstances (rural or urban, variable distances from burns centres, variable available assistance, resources, etc.). The EMSB course emphasises the ATLS 'airway, breathing, circulation' principles and focuses on the 'golden hour', but also gives the provider some insight into interventions that may have beneficial long-term functional and aesthetic sequelae.<sup>[1,2,4]</sup> The EMSB course was adopted in the UK in 1997 and in Holland in 1998.<sup>[6,7]</sup> The South African Burn Society (SABS) recognised the dire need for such a course, and contact with ANZBA was established. Professor Heinz Rode attended the EMSB provider and instructor courses in Brisbane in 2003, and South Africa's first course was held in Cape Town in 2005, with four instructors and five co-ordinators from Australia.

A manual detailing the EMSB course content is provided in advance. The course is run over a single day and is similar to ATLS-type courses, where candidates receive lectures, participate in discussion sessions, and familiarise themselves with practical skills and techniques relevant to the severe acute burn. The candidates then undergo a multiple-choice examination to test their grasp of the theoretical knowledge and are expected to demonstrate their practical skills during 'moulages'. Reinforcement of a structured approach or algorithm is of paramount importance.<sup>[1,6]</sup>

Courses were initially held in Johannesburg, Cape Town and Durban, on at least an annual basis. In 2011, the SABS acknowledged that a great need existed in the smaller centres, particularly on the part of those in first contact with burn victims. A national course co-ordinator was recruited, and courses have since been held in George, Kimberley, Pietermaritzburg, Krugersdorp and Empangeni. The enthusiastic and overwhelming support for the course in these centres has demonstrated the vacuum in knowledge and skills that the course now fills. Candidates from a variety of backgrounds (including medical officers, surgeons from

several specialties, casualty officers, anaesthetists, nursing staff and paramedics) have attended the course. Twenty doctors and nurses from a number of countries across the African continent also completed the provider course in 2011, as part of the Pan African Burns Society Congress programme. Two instructor courses have been held so far, producing 16 instructors; potential candidates are identified during the provider courses. The SABS has recognised that training local instructors is critical to the ongoing success and sustainability of the EMSB course.

The Emergency Medicine Society of South Africa has strongly supported the EMSB course, and at least two universities have made it part of the Emergency Medicine MMed training programme. There is a similar drive to make the course a prerequisite for fellowship training in plastic, general and paediatric surgery.

Breederveld *et al.* compiled an Internet-based questionnaire that served to evaluate the effect the EMSB course has had on the knowledge and skills of emergency care workers in Holland.<sup>[7]</sup> Although much education and training is still required, statistically significant differences were observed between those who had completed the course and those who had not. For example, EMSB 'graduates' made better use of the hand percentage estimation, were more likely to suspect inhalational injuries and hypothermia, and could be relied on to refer patients appropriately.<sup>[7]</sup> It can be extrapolated that the differences between these two groups (those who had and those who had not undertaken the course) would be far greater in the South African context, because of the small proportion of time dedicated to burns in undergraduate medical curricula. It is a priority of the SABS to promote the EMSB course aggressively as the minimum burns training course for all individuals who may be involved in the care of burns patients.

The authors write on behalf of the South African Burn Society ([saburnsociety.org.za](http://saburnsociety.org.za)).

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#### REFERENCES

1. Australian and New Zealand Burn Association. The Emergency Management of Severe Burns Course Manual. SA edition. Cape Town: Education Committee of the Australian and New Zealand Burn Association Limited and South African Burn Society, Cape Town, 2009.
2. Rode H, Berg A, Rogers A. Burn care in South Africa. *Ann Burns Fire Disasters* 2011;24:7-8.
3. Rogers AD, Price CE, Wallis L, Rode H. Towards a national burns disaster plan. *S Afr J Surg* 2011;49(4):174-177.
4. Rogers AD, Karpelowsky J, Argent A, Millar AJW, Rode H. Fluid creep in major paediatric burns. *Eur J Pediatr Surg* 2010;20(2):133-138. [<http://dx.doi.org/10.1055/s-0029-1237355>]
5. Committee on Trauma, American College of Surgeons. ATLS: Advanced Trauma Life Support Program for Doctors. 8th ed. Chicago: American College of Surgeons, 2008.
6. Stone CA, Pape SA. Evolution of the Emergency Management of Severe Burns (EMSB) course in the UK. *Burns* 1999;25(3):262-264. [[http://dx.doi.org/10.1016/S0305-4179\(98\)00161-2](http://dx.doi.org/10.1016/S0305-4179(98)00161-2)]
7. Breederveld RS, Nieuwenhuis MK, Tuinebreijer WE, Aardenburg B. Effect of training in the emergency management of severe burns on the knowledge and performance of emergency care workers as measured by an online simulated burn incident. *Burns* 2011;37(2):281-287. [<http://dx.doi.org/10.1016/j.burns.2010.08.011>]

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