Scand J Trauma Resusc Emerg Med 2004; **12** ; 171-172 With editorial comments Ari Leppäniemi

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Trauma and Emergency Surgery: An evolutionary direction for trauma surgeons.

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Background: The success of nonoperative management of injuries has diminished the operative experience of trauma surgeons. To enhance operative experience, our trauma surgeons began caring for all general surgery emergencies. Our objective was to characterize and compare the experience of our trauma surgeons with that of our general surgeons.

Methods: We reviewed records to determine case diversity, complexity, time of operation, need for intensive care unit care, and payor mix for patients treated by the trauma and emergency surgery (TES) surgeons and elective practice general surgery (ELEC) surgeons over a 1-year period.

Results: TES and ELEC surgeons performed 253 +/- 83 and 234 +/- 40 operations per surgeon, respectively (p = 0.59). TES surgeons admitted more patients and performed more after-hours operations than their ELEC colleagues. Both groups had a mix of cases that was diverse and complex.

Conclusion : Combining the care of patients with trauma and general surgery emergencies resulted in a breadth and scope of practice for TES surgeons that compared well with that of ELEC surgeons.

***Comments**: This study emphasizes the current controversies of the role of trauma surgery in the United States where the decreasing trauma volume and more frequent nonoperative management of trauma patients have prompted the concern on limited operative experience of future trauma surgeons (1). One solution that has been offered resembles the model used in some, mostly central European countries where trauma surgeons not only evaluate patients and operate on their abdomens and potentially their chest and blood vessels, but render total operative care including early fracture fixation and decompression of subdural and epidural hematomas (2, 3). Another alternative would be to add emergency general surgery to the trauma service. In a recent study from the United States, the addition of emergency surgery to a trauma service resulted in equivalent outcomes for injured patients, and the concept of adding emergency surgery responsibilities to trauma surgeons appeared to be a valid way to increase operative experience without compromising care (4).*

During the last EAST meeting in January 2004 both Dr. J. Wayne Meredith in his Presidential Address and Dr. Donald D. Trunkey in the Scott Frame Memorial Lecture explored the advantages of creating a new "hospitalist" emergency surgeon by merging emergency general surgery to trauma care. This emergency general surgical specialist would be the in-house surgeon managing not just trauma patients but other general surgical emergencies and would also have a wide knowledge of surgical critical care. The special services provided by surgical subspecialists would be provided on a less urgent basis the following day or for the rare urgent emergencies on an on-call basis (5).

In view of the similarities in manifestation (such as major hemorrhage), type and degree of physiological derangement, and diagnostic and therapeutic interventions needed, management of an acute surgical problem, whether caused by injury or illness, requires broad knowledge, good decision making skills, and surgical experience and expertise. In addition to the ability to perform most of the life- and limb-saving surgery required during the first 24 hours, an appropriately trained general surgeon with expertise in trauma and emergency surgery could act as mentor and team leader synchronizing the work of other specialists. Finally, a general surgeon trained in emergency surgery would be an ideal person to run and develop trauma and emergency surgical units in larger hospitals as well as be the coordinator in planning for mass casualty situations (5).

References

1. Fakhry SM, Watts DD, Michetti C, et al. The resident experience on trauma: declining surgical opportunities and career incentives? Analysis of data from a large multi-institutional study. *J Trauma* 2003; **54**: 1-8.
2. Trunkey DD. In search of solutions. *J Trauma* 2002; **53**: 1189-1191.
3. Richardson JD, Miller FB. Is there an ideal model for training the trauma surgeons of the future? *J Trauma* 2003; **54**: 795-797.
4. Pryor JP, Reilly PM, Kauder DT et al. The addition of emergency surgery to the Trauma Service: impact on the care of injured patients (Abstract). *J Trauma* 2004; **56**: 229.
5. Leppäniemi AK. Global trends in trauma. *Trauma* 2004; **6**: 1-11.

Finlay IG, Edwards TJ, Lambert AW

Damage control laparotomy.

Br J Surg 2004; **91**: 83-85

Background: Damage Control Surgery (DCS) is well established in the management of trauma. This study assessed the results of DCS in the management of critically ill patients who had not had trauma.

Methods: This was a prospective series of patients treated by DCS. The Physiological and Operative Severity Score for the enUmeration of Mortality and morbidity (POSSUM) and Portsmouth predictor equation (P-POSSUM) were used to predict the risk of death, which was compared with the observed mortality rate.

Results: Fourteen patients were studied. Nine had sepsis from gastrointestinal perforation. Eight of these underwent bowel resection without anastomosis or stoma formation at the initial laparotomy. Six patients later underwent bowel anastomosis and two had an end stoma formed at second laparotomy. A further three patients had a ruptured aortic aneurysm, one had reactionary haemorrhage after elective surgery, and one had a retroperitoneal bleed; all required haemostatic packing that was removed at second laparotomy. Mortality rates predicted by POSSUM and P-POSSUM scoring were 64.5 and 49.6 per cent respectively. One patient (7.1 per cent) died after operation, giving observed mortality rate significantly lower than predicted (P = 0.002 and P = 0.038 versus values predicted by POSSUM and P-POSSUM, respectively).

Conclusion: The use of DCS in the treatment of critically ill patients resulted in a lower mortality rate than predicted by POSSUM and P-POSSUM. DCS should not be restricted to trauma.

***Comments**: In emergency surgery centers that care for trauma and non-trauma emergencies alike, the concept and practice of damage control surgery in non-trauma emergencies is not new. However, this study is one of the first documenting a survival benefit of staged surgery in non-trauma emergencies and in spite of the small number of patients, the observed mortality rate of 7.1% in this patient category is excellent by any standards. Another message of this study emphasizes the benefits of cross-fertilization between trauma surgery and emergency general surgery, where principles and practices found useful in one area can be used appropriately in the other, as long as the surgical expertise is not diluted by extensive subspecialization and artificial separation of urgent surgical services for patients suffering from an acute life-threatening surgical problem, whether caused by trauma or illness.*