Preface

As you step off the plane you are struck by an oppressive heat, but this is not what catches your attention. It is the foreignness of this place – the unfamiliar terrain, the noise, the oddly clustered tents and buildings, the serious and determined looks of people involved in a war. I had completed a trauma fellowship at one of the busiest penetrating trauma centers in the USA and thought I was ready for anything – mistake number one. Fortunately, you have at least several days of overlap with the outgoing group of surgeons that you are replacing.

I first met the surgeon I was replacing in a dusty tent in Tikrit, Iraq. Luckily for me it was Marty Schreiber, one of the best trauma surgeons I know. His last and most important task at the end of his combat tour was to pass on everything a new and inexperienced combat surgeon needed to know to survive and thrive in this environment. Over the next 72 hours I received a mini-fellowship in forward medicine and combat trauma surgery. After that, the first month was an eye-opening crash course in how to manage a constant stream of the most severely injured patients you will ever see. I had plenty of tough cases, difficult decisions, and rookie mistakes. I distinctly remember thinking that if it was this tough for someone coming right out of a two-year trauma and critical care fellowship, how much harder would it be for a newly graduated resident or even an experienced surgeon who had not done any trauma for years? This was the initial seed of inspiration for creating *Front Line Surgery*.

My goal was to create the book that I wish someone had handed to me before I was deployed. To formalize and expand upon the informal "pass-on" sessions that occur every time a new group of surgeons arrives. No basic science, no extensive reference lists; just practical information, techniques, and lessons learned. I believe that the first edition of *Front Line Surgery* achieved that goal, and the most personally and professionally rewarding feedback I ever received was from a surgeon telling me that this book helped them in some way when they were deployed to a combat zone. The first edition was written for a very "niche" audience, and thus we were somewhat surprised by the sales numbers and how widely the book was distributed and utilized. In the second edition, we have purposefully not changed the things that we believe made the original so successful — namely, the "been there and done that"-type chapters written by experts with combat trauma experience, and geared toward easily digested and practical advice. However, we have also recognized

the unprecedented level of cooperation and collaboration between military and civilian physicians and surgeons over the past decade-plus of combat operations, and the urgent need to share concepts and key lessons between these two groups. Thus, we have added a number of our civilian colleagues to add their perspective to many of the chapters and to highlight key areas of commonality and difference in that area of care. As with the first edition, I could not have hoped for a better group of authors and colleagues, and have learned a great deal more about combat trauma just from reviewing their chapters. I hope you enjoy it, find it useful, and continue the tradition of passing on these lessons learned to those who follow.

Tacoma, WA, USA Matthew J. Martin

Preface

Of the first five casualties I treated in Iraq in 2004 after joining my forward surgical team, two died and one lost his leg. Four of these casualties arrived at the same time. Their wounds were appalling. One casualty had been blown out of the HUMMV turret, ruptured every solid organ in his body, and broke both his legs. Another had a head injury, impending airway loss, flail chest, ruptured thoracic aortic arch, ruptured spleen, and open femur and tib-fib fractures. We had a total of only 20 units of blood. For a two-surgeon forward surgical team, it was a humbling and overwhelming experience.

The next day I met John Holcomb for the first time as he visited all the surgical units in theater as Trauma Consultant to the Surgeon General. After I discussed the mass casualty from the day before – and it *was* a MASCAL for our unit – he encouraged us to continue to collect our experiences, write them up, and pass them on. He reminded me that not so long ago another army major had written up his life-changing experiences treating casualties in Somalia.

With the first edition of *Front Line Surgery*, we set out to create a book that would provide any deployed surgeon with a well-organized, easy-to-read reference to get or keep them out of trouble. One of the most heart-warming experiences I have had since the first edition's publication, however, was to see copies of it, spine bent and worn, on some of my junior (and senior) civilian trauma colleagues' desks. I realized, as my coeditors did, that the first edition was successful precisely because it provided no-nonsense, prescriptive guidance relevant to *any* clinician caring for trauma patients.

With the second edition, we sought to update and refine that guidance while preserving the overall readability and practical tone of the first book. Several brand-new and relevant chapters have been added. In addition, we have been fortunate to be able to assemble an extraordinary set of authors to provide expert civilian perspective on lessons hard-learned in war time and how they may be applied in any trauma setting, civilian or military. I hope you enjoy reading and learning from the new edition as much as I have.

Philadelphia, PA, USA Alec C. Beekley

Preface

As one of the younger generation of current military surgeons during this stretch of recent conflicts, I finished training in trauma and critical care in 2012, and was promptly deployed to the NATO Role III hospital in Helmand, Afghanistan. While coalition casualties were declining, a steady flow of Afghan military, police, and civilian patients arrived daily. My partner, Col. Tom Wertin, and a host of experienced UK surgeons showed me the difference between civilian and combat trauma. Day after day we saw fresh casualties, took back others for washouts and debridements, and slowly closed the physical wounds inflicted by a war waged with improvised explosive devices. This was the world of the dismounted complex blast injury, a visually and professionally shocking pattern of injury that has become a hallmark of all recent conflicts.

My first deployment was the last of the "busy" combat medical tours and in a way I was lucky to have that experience. Many of the old guards and mentors like Drs. Holcomb, Jenkins, Eastridge, Sebesta, Brown, and Beekley have since moved on to civilian careers. A newer generation of surgeons without the deep experience from the height of the wars in Iraq or Afghanistan is now faced with the endless rotations in Afghanistan and the re-entry of Iraq and Syria. While institutional memory always fades with time, the hard lessons learned are recorded in numerous reports, the guidelines of the Joint Trauma System, and the pages of *Front Line Surgery*. My copy of the first edition, dog-eared and coffee-stained, has accompanied me now six times overseas, and this updated edition will help the next generation of military surgeons who face the challenges of providing extraordinary care in the worst of places.

Tacoma, WA, USA Matthew J. Eckert

Top Ten Combat Trauma Lessons[1]

1. Patients die in the ER, and
2. Patients die in the CT scanner;
3. Therefore, a hypotensive trauma patient belongs in the operating room ASAP.
4. Most blown-up or shot patients need blood products, not crystalloid. Avoid trying "hypotensive resuscitation" – it's for civilian trauma.
5. For mangled extremities and amputations, one code red (4 PRBC +2 FFP) per extremity, started as soon as they arrive.
6. Patients in extremis will code during rapid sequence intubation; be prepared, and intubate these patients in the OR (not in the ER) whenever possible.
7. This hospital can go from empty to full in a matter of hours; don't be lulled by the slow periods.
8. The name of the game here is not continuity of care; it is throughput. If the ICU or wards are full, you are mission incapable.
9. MASCALs live or die by proper triage and prioritization – starting at the door and including which x-rays to get, labs, and disposition.
10. No personal projects! They clog the system, waste resources, and anger others. See point 8

[1] Reprinted from "The Volume of Experience" (January 2008 edition), a document written and continuously updated by US Army trauma surgeons working at the Ibn Sina Hospital, Baghdad, Iraq.


Baghdad ER
ARMY

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