

Military Medicine in Iraq and Afghanistan

A Comprehensive Review

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For centuries, providers and clinicians have provided care for the warrior on the battlefield. The clinical specialty of military medicine has become more organized and more rooted in evidence-based medicine. Focus has also moved from trauma to prevention, internal medicine, infectious disease and nonbattle injury, hygiene, mental health, rehabilitation, ethics, pediatrics, and many other disciplines related to health and security. The constant pursuit of best practices requires not only this evidence base but also the sharing of lessons learned to be applied to future conflicts—before these lessons are lost to time. *Military Medicine in Iraq and Afghanistan: A Comprehensive Review* serves as a compendium and comprehensive review of the United Kingdom's Defence Medical Services military medicine from the wars in Iraq and Afghanistan. It is completed by colleagues and multiple UK-based authors and provides expert analysis and lessons to save life on the battlefield. As NATO and NATO partner forces prepare for the next battle over the land, sea, air, space, and cyber multidomain battlefield, this comprehensive book offers the policy and decision maker, the practitioner, and, most importantly, the warfighter lessons learned from the British military medicine experience with meticulous detail and account.

The British Defence Medical Services have been recognized as providers of exemplary health care, and this review of the military experience in these conflicts from the United Kingdom is truly multidisciplinary. This approach includes comment on best practices in the field from a global level from across the UK and includes partners such as the Trauma, Oxygenation and Research Network (THOR) and US Armed Forces medical services, among myriad others. Indeed, this book offers evidence that will impact military medical systems across the NATO alliance and its partners for the better.

Description of the run-up and lead into the Afghanistan and Iraq wars in diligent detail helps set the stage and provides copious account with data, the lives lost, and milestone events throughout these theaters and military campaigns. Upon merger with NATO military medical doctrine, the British approach describes the organizational framework that follows the levels of care from point of injury, care under fire, tactical evacuation care, prolonged field care, and damage control resuscitation (DCR) and surgery (DCS) as described in the Tactical Combat Casualty Care (TCCC), Forward Resuscitative/

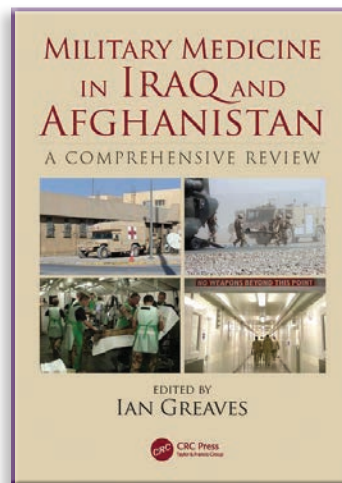
Surgical Care (FRC/FSC) US and NATO military medical doctrine.

Each chapter provides expert clinical analysis and detailed breakdown for the anatomical regions and other specific topics and integrates where DCR/DCS has advanced and which challenges were overcome and which remain for future research. These are indeed excellent lessons learned and shared. Of note, the discussion of the organization framework of the patient care pathway with integrated health service network provides best practices for patient movement. And notes on trauma risk management and the prehospital medical emergency response teams operating from point of injury and Role I to that of Role IV provide a comprehensive account of patient movement and interventions in support of the evacuation chain at all echelons of care. Blood and transfusion medicine is discussed at length with focus on blood being administered far forward with accounts from not only the military experience but also that of British civilian prehospital care providers as well, highlighting interoperability. This is an area of research and operational medicine that is expanding rapidly, and the lessons here provide data not presented elsewhere.

An interesting comparison relates to training and standards, the British have developed the BATLS course (Battlefield Advanced

Trauma Life Support) mandatory for deployed personnel, enforcing a team approach to trauma. No line-by-line curriculum analysis was undertaken for this review, but this course and others described in support of all phases of care likely correlate to the TCCC military provider and other prehospital standards deployed by the Department of Defense across all branches of military service.

Of special note, the UK Joint Theatre Trauma Registry (UK-JTTR) is the British equivalent to the Joint Trauma Registry (i.e., Joint Trauma System), which was developed to improve trauma readiness and outcomes through evidence-driven performance improvement. The data presented throughout this huge body of evidence and analysis support factors mitigating the lethal triad of coagulopathy, hypothermia, and acidosis, indeed the nexus of all battlefield medical research. The UK-JTTR also supported the novel illustration and recommendations on DCR/DCS from the British experience with a broad range of medical innovation. A recurring theme in this book is that of medical command and control and deployed



advanced practitioners and clinical/operational decision-making; the main outcomes of the challenges and benefits of having deployed medical command/medical director are outlined in detail.

The breakdown of enemy weapon systems and wounding chapter not only highlights the unconventional kinetic threats in these conflicts but also reveals how data-driven decisions are made for personal protective equipment and innovation. The surface wound mapping system gleaned from the trauma registry has supported the evolution of personal protective equipment for British Forces.

One small criticism I must offer is that despite all of these excellent advancements and shared lessons learned from the

British experience, it is unfortunate that there is not more presented evidence of the collaboration with partner nations on battlefield medicine. The combined efforts of the US Department of Defense and multiple NATO nations with British Forces is remarkable, and the shared experience of warfighting and deployments must not be overlooked. Indeed, the sharing of these lessons and the cross-pollination of expertise to save life can be a force multiplier across the NATO alliance and throughout strategic partnerships.

One thing is certain after reading this encyclopedic and exhaustive account of the British military medical experiences in Iraq and Afghanistan—the many lives lost have not been in vain and their loss has catapulted trauma and battlefield care to save life.



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