We appreciate the thoughts and comments provided by Allen et al in their correspondence to the editor. The care of the trauma patient requires an interdisciplinary approach. The American College of Surgeons Committee on Trauma (ACS COT), along with its partner organizations, such as American College of Emergency Physicians (ACEP), has diligently tried to make trauma center criteria centered on the patient and the multidisciplinary team concept. Resuscitative Endovascular Balloon Occlusion of the Aorta (REBOA) has emerged as a potential technique for controlling previously lethal truncal hemorrhage in trauma patients, but its optimal role in the management of hemorrhagic shock has yet to be established. The purpose of the ACS and ACEP joint statement is to keep the focus on patient safety in the use of this device. We believe there is insufficient evidence to support the widespread adoption of REBOA in both civilian trauma centers and non-trauma centers where there is not immediate access to definitive hemorrhage control. This stance is due to concerns of the negative consequences of (1) prolonged ischemia and (2) delay of hemorrhage control as documented in evidence to support the widespread adoption of REBOA. In fact, these courses are designed to ensure anyone placing REBOA is appropriately trained. We are aware of some courses being taught in 1–2 hours, which is not sufficient to gain experience necessary for placement in practice. We support implementation of integrated competency-based REBOA programs that include rigorous educational standards, carefully studied for effectiveness and support real-time process improvement.

The authors note that educational programs have emerged for REBOA placement and are designed exclusively for surgeons. In fact, these courses are designed to ensure anyone placing REBOA is appropriately trained. We are aware of some courses being taught in 1–2 hours, which is not sufficient to gain experience necessary for placement in practice. We support implementation of integrated competency-based REBOA programs that include rigorous educational standards, carefully studied for effectiveness and support real-time process improvement.

The authors note that they strongly believe that with appropriate training emergency physicians can develop skills necessary to appropriately place a REBOA catheter. We do not dispute that anyone can be taught to place the catheter with proper training, but this is not just another ‘tool in the toolbox’. Rather, more appropriate questions are, even if taught to place it, under what clinical, ethical, and system-based circumstances should it be placed, if at all? Thus, we worked to come to consensus with a statement that focuses on patient safety. Most of the current clinical literature on REBOA has been equivocal, with some studies demonstrating survival benefit, while others showing it may actually worsen mortality. To date, there has only been one prospective clinical study, which showed no difference in survival compared with open aortic occlusion.4

The authors note that the ACS COT and ACEP joint statement sends a ‘confusing and contradictory message’ regarding military training providing a pathway for civilian emergency physicians to place REBOA. Both organizations greatly value and respect military service and experience. Our joint statement references the military pathway to acknowledge the experience emergency physicians obtained with REBOA during deployment and to provide a clear pathway for their continued REBOA use within an organized civilian trauma system.

We made these recommendations with consensus among the leadership of both organizations based on current available best evidence. We recognize these recommendations are both inconvenient and demanding for surgeons and require some professional self-restraint by emergency physicians. However, we believe that during this critical period of introduction of the device into civilian practice our statement fosters judicious use of REBOA in a manner that is safest for patients. In closing, we support an inclusive team approach, including both emergency physicians and surgeons, who have sufficient training in REBOA placement for patients cared for in well-developed, coordinated trauma systems. We strongly support ongoing research and performance improvement efforts to expand the evidence and further clarification of the indications, contraindications, and optimal use of REBOA in patients with non-compressible torso hemorrhage. We urge caution in widespread use until such time as this information is forthcoming.

Debra G Perina,1 Christopher S Kang,2 Eileen M Bulger,3 Ronald M Stewart,4 Robert J Winchell,5 Megan Brenner,6 Sharon Henry,6 Leonard J Weireter,7 Michael C Chang,8 Michael F Rotondo8

1Department of Emergency Medicine, University of Virginia, Charlottesville, Virginia, USA
2Department of Emergency Medicine, Madigan Army Medical Center, Tacoma, Washington, USA
3Department of Surgery, University of Washington, Seattle, Washington, USA
4Department of Surgery, UT Health San Antonio, San Antonio, Texas, USA
5Department of Surgery, New York-Presbyterian Weill Cornell Medicine, New York, USA
6Department of Surgery, R Adams Cowley Shock Trauma Center, Baltimore, Maryland, USA
7Department of Surgery, Eastern Virginia Medical School, Norfolk, Virginia, USA
8Department of Surgery, Wake Forest Baptist Medical Center, Winston-Salem, North Carolina, USA
9Department of Surgery, University of Rochester Medical Center, Rochester, New York, USA
Correspondence to Dr Ronald M Stewart; stewartr@uthscsa.edu

Contributors All of the authors contributed to this letter. This letter was drafted by DGP and CSK. All other authors reviewed and provided revision and input.

Funding This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

Disclaimer The statements and views expressed are those of the authors and do not reflect the official policy or position of the United States Army or the Department of Defense.

Competing interests MB reports grants from Department of Defense, during the conduct of the study; and stock options from Prytime Medical Inc. outside the submitted work.

Provenance and peer review Commissioned; internally peer reviewed.


Received 17 February 2018
Accepted 19 February 2018

Direct DOI: http://dx.doi.org/10.1136/tsaco-2018-000168

REFERENCES

