

Analysis of Battlefield First Responder & Combat Lifesaver Interventions During Role 1 Phase of Care



MW Paulson^{1,2}, JD Hesling^{1,2}, JT McKay^{1,2}, VS Bebart¹⁻³, KF Flarity^{1,2,4}, S Keenan^{1,2,5,12}, JF Naylor⁶, AD Fisher^{7,8}, MD April⁹, J Bynum¹¹, SG Schauer^{3,10,11,12}

¹University of Colorado School of Medicine, Aurora, CO; ²CU Anschutz Center for COMBAT Research, Department of Emergency Medicine, University of Colorado School of Medicine, Aurora, CO; ³59th Medical Wing, JBSA Lackland, TX; ⁴Headquarters Air Mobility Command, Command Surgeon, Scott Air Force Base, IL; ⁵Joint Trauma System, Defense Health Agency, JBSA Fort Sam Houston, TX; ⁶Madigan Army Medical Center, Joint Base Lewis McChord, WA; ⁷Medical Command, Texas Army National Guard, Austin, TX; ⁸Department of Surgery, University of New Mexico School of Medicine, Albuquerque, NM; ⁹2nd Stryker Brigade Combat Team, 4th Infantry Division, Fort Carson, CO; ¹⁰Department of Emergency Medicine, Brooke Army Medical Center, Fort Sam Houston, TX; ¹¹United States Army Institute of Surgical Research, JBSA Fort Sam Houston, TX; ¹²Uniformed Services University of the Health Sciences, Bethesda, MD

The battlefield first responder (BFR) performs a wide array of lifesaving interventions on the battlefield within their scope of practice.

BACKGROUND

- The battlefield first responder (BFR) is the first non-medical personnel to render critical lifesaving interventions to combat casualties.
- Service members receive medical instruction during initial entry training (IET), unit-dependent medical training, and by attending a Combat Lifesaver (CLS) course.

OBJECTIVE

We seek to describe interventions administered to casualties only by BFRs as recorded in the patient chain of care within the Prehospital Trauma Registry (PHTR).

METHODS

Retrospective analysis of casualties from Prehospital Trauma Registry (PHTR) January 2003 through May 2019.

1357

Casualty encounters in PHTR



29

Casualties with BFR as sole care provider



21

Linkable to DoDTR for outcome data

- Demographics
- Mechanism of injury
- Rank
- Affiliation
- Battle status
- Casualty's country
- Interventions performed
- Military operation
- Injury severity score
- Location of injuries with AIS > 3

RESULTS

- Total 29 male PHTR casualties: 93% sustained injuries in combat, 96% injured in Afghanistan. Explosive injury (55%) and firearm (24%) most common mechanism.
- Total 21 PHTR casualties linked to DoDTR: median ISS (Injury Severity Score) = 5 (IQR 1-10). For injuries ≥ 3 on Abbreviated Injury Scale (AIS), injury to extremities (14%) were most prevalent, followed by head/neck and thorax (9% each); 95% survived to discharge.

Interventions administered to PHTR patients treated solely by a BFR

Massive hemorrhage	
Pressure Dressing	12
Limb Tourniquet	4
Hemostatic gauze, wound packing	2 each
Airway management	
Bag-valve-mask, NPA	1 each
Respiration and breathing	
Chest Seal	1
Chest Needle Decompression	0
Circulation	
IV Fluids	3
Intraosseous Access	0
Hypothermia prevention	
Hypothermia Prevention Kit	0
Post-MARCH	
Extremity Splint	1
Backboard, blizzard blanket, cervical collar, eye shield, pelvic splint	0

CONCLUSIONS

Our study demonstrates that the BFR provides a wide range of vital medical interventions to combat wounded service members. Periodic reassessment of training and equipment is necessary to ensure BFRs have the knowledge and capability to rapidly and effectively administer life-saving interventions. Future studies may determine whether to omit less frequently administered interventions from formal BFR curricula with matching materiel solutions.

LIMITATIONS

- Under-documentation of battlefield casualties via DD1380 TCCC Cards continues to plague the U.S. military and limit data collection, likely contributing to our small sample size.
- The PHTR often fails to include Role 1 casualties who expire prior to arrival at higher levels of medical care. Thus, additional BFR-only prehospital care may have been delivered but not analyzed.
- Confounding variables with the potential to impact level of care (e.g., battlefield situation) were neither available nor examined.

DISCLAIMERS

The opinions expressed in this poster presentation are those of the authors and do not reflect the official policy or position of the U.S. Army Medical Department, Department of the Army, Department of Defense, or the U.S. Government.

ACKNOWLEDGEMENTS

The authors acknowledge the Department of Defense Trauma Registry (DoDTR) for providing data for this study.



University of Colorado
Anschutz Medical Campus