Pressure Points, A Lifesaving Practice Forsaken in Vain, Findings from the Pressure Points Study

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Background: Junctional hemorrhage (from the junction between the limbs and torso) is a leading cause of preventable death on the battlefield (19.2% of lethal hemorrhages), and is unnamable by standard tourniquets, while junctional tourniquet application is difficult and time consuming. Pressure points maneuver, the practice of stopping or limiting major bleeding by manually compressing a major artery against a bony structure to stop blood flow distal to that point, is no longer recommended by the leading pre-hospital care guidelines, following a single study questioning its effectiveness. The current study re-addresses this issue, assessing the effectiveness of supraclavicular and femoral pressure points at stopping blood flow to the limb in elite combat soldiers. Methods: In this interim analysis of a prospective human volunteer study, twenty-four special operations forces medics applied the supraclavicular and femoral pressure points following brief instruction. Distal blood flow was measured using pulse wave Doppler ultrasound until complete cessation of blood flow and for an additional three minutes afterward. Time to complete blood flow cessation and cumulative time of blood flow absence within those minutes was recorded. Results: Nearly all participants (aged 21.7±1.1) successfully achieved complete arrest of distal blood flow using the supraclavicular (95.8%) and femoral (100%) pressure points within 10.3±23.8 and 3.8±2.5 seconds, respectively. Adequate pressure was maintained for 178.3±5.1/180 seconds in the femoral point and 117.1±41.6/180 seconds in the supraclavicular point. Conclusion: These results demonstrate that under laboratory conditions following minimal instruction, soldiers could effectively stop or significantly decrease distal blood loss by applying two clinically relevant pressure points for a reasonable time period. This suggests that with appropriate training, this practice is feasible and its re-introduction to pre-hospital trauma guidelines should be considered, mainly as a bridge for other measures to be applied while preserving precious blood in the first critical moments following injury.

Hyperoxia Is Associated With a Greater Risk for Mortality in Critically Ill Traumatic Brain Injury Patients Than in Critically Ill Trauma Patients Without Brain Injury

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Background: Both hypoxia and hyperoxia are associated with increased mortality among critically injured civilians and military personnel. However, the risks of hyperoxia in traumatic brain injury (TBI) patients relative to other critically ill trauma patients remain unknown. Methods: We performed a secondary analysis of a multicenter retrospective cohort study of 3,464 critically injured adult patients presenting to three regional trauma centers (two level I and one level II) between October 1, 2015, and June 30, 2018. The primary outcome was in-hospital mortality. Secondary outcomes included proportion of time spent in hyperoxia (defined as SpO2 >96% or PaO2>100mmHg) and ventilator free days (VFD). Results: After adjusting for ICU length of stay and mechanical ventilation status, critically ill TBI patients spent a significantly greater amount of time in hyperoxia than their critically ill non-TBI counterparts (49.2% vs 44.0%; p<0.001). A total of 163/1524 patients (10.7%) died in the TBI group, and 101/1940 patients (5.2%) died in the non-TBI group. The risk for mortality was significantly higher for TBI patients with hyperoxia than non-TBI patients with hyperoxia. At any fixed SpO2 level, for both patients with and without TBI, the risk of mortality increased with increasing FiO2. This trend was observed at all FiO2 and SpO2 levels but was more pronounced at lower FiO2.
and higher SpO2 values where a greater number of patient observations were obtained. Conclusion: Hyperoxia was more common and was associated with a greater risk for in-hospital mortality in critically ill TBI patients, compared to critically ill trauma patients without TBI. Prospective studies are needed to elucidate the mechanisms and clinical implications underlying these differences to inform oxygen-related clinical practice guidelines for military and civilian TBI patients.

### 2022 SCIENTIFIC ASSEMBLY RESEARCH PRESENTATIONS

#### Internal Jugular Vein Dissection Diagnosed Using Bedside Ultrasonography
CPT Vanessa C. Hannick, MD (1); CPT Alexandra Palmer, MD (1); LT Matthew Gaddy, NREMT-P; (2) LT Matt Brown, Medical Student; (3) CPT Adam Spanier, MD (1); MAJ Daniel B. Brillhart, MD (1); (1) Carl R. Darnall Army Medical Center, Fort Hood, TX 212th, JBER, AK; 3) Uniformed Services University, Bethesda, MD

#### Should Dalbavancin Replace Vancomycin in the Prolonged Casualty Care Setting?
2LT Cooper Barber, Medical Student (1); SSG Blake Wright, SO-ATP, NRP, FP-C, Flight Medic; (2) CPT Adam Spanier, Chief Resident, Emergency Medicine; (3) MAJ James Gragg, Attending Emergency Medicine Physician (3); 1. USUHS, Bethesda, MD; 2. Hunter AAF, Savannah, GA; 3. Carl R. Darnall Army Medical Center, Fort Hood, TX

#### “AirSupport” Casualty Transport Pad Outperforms the Warrior Evansion Litter Pad (WELP): Decreased Skin Surface Pressure at <50% of WELP Weight and 33% of WELP Size
Ashish Purekar, PhD: Senior Scientist & Program Manager*; Pablo Sztein, MS: Senior Product Design Engineer*; Jonathan Chambers, PhD: Product Development Engineer*; InnoVital Systems (Calverton, MD); (1) Amit Shah, MD: Chief Medical Officer, InnoVital Systems (Calverton, MD) & Senior Attending Physician, MedStar Emergency Physicians

#### Next-Generation, Light-Guided “SureTube” Intubation: High Success by Novice Operators Using an Early Prototype System in a Cadaver Model
(1) Amit Shah, MD: Chief Medical Officer, InnoVital Systems (Calverton, MD) & Senior Attending Physician, MedStar Emergency Physicians; (2) Curt Kothera, PhD: Senior Scientist & Program Manager, InnoVital Systems (Calverton, MD)

#### Expeditionary Fasciotomy and Aeromedical Evacuation from a Deployed Naval Ship
Lieutenant Commander Andrew J. Medenbach, DO, Emergency Medicine, US Navy, San Diego, CA; Lieutenant Commander Marissa A. Mayor, MD, General Surgeon, US Navy, Jacksonville, NC; Lieutenant Commander, Alexandre D. Nguyen, MD, Emergency Medicine, US Navy, San Diego, CA

#### Designing Human Factors Into a Multi-Vent Chest Seal Dressing
Matthew Gris; Amy Connah; Andrew Hoggar (Research & Development at Medtrade Products Ltd, Crewe, UK); Tim Berrow (Global Product & Business Development Manager at Medtrade Products Ltd, Crewe, UK)

#### Efficacy of a Multi-Vent Chest Seal Dressing Under Different Clinical Conditions
Amy Connah; Matthew Gris; Andrew Hoggarth (Research & Development at Medtrade Products Ltd, Crewe, UK); Tim Berrow (Global Product & Business Development Manager at Medtrade Products Ltd, Crewe, UK)

#### The Impact of Environmental Conditions on the Adhesion Properties of a Multi-Valve Vented Chest Seal Dressing
Andrew Hoggarth; Matthew Gris; Amy Connah (Research & Development at Medtrade Products Ltd, Crewe, UK); Tim Berrow (Global Product & Business Development Manager at Medtrade Products Ltd, Crewe, UK)

#### Retrospective Review of Neuroendocrine Dysfunction among National Intrepid Center of Excellence (NICOE) Intensive Outpatient Program (IOP) Patients: Expanded Results of Preliminary Findings
ENS Bryson Hewins, MS, MSIII (1); LT Rachael Campbell, MD, PGY-2 (1,2); Dr. Sara Lippa, PhD, AI (1,2); Carol Moore, MA, AI (1); LCDR Kent Werner, MD, PhD; Director of Research Sleep Center WNNMC (1,2,3); Dr. Kimbra Kenney, MD, Service Chief, Research Ops NICOE (1,2); 1. Uniformed Services University of the Health Sciences, Bethesda, MD; 2. National Intrepid Center of Excellence, Bethesda, MD; 3. Sleep Disorders Center, Walter Reed National Military Medical Center, Bethesda, MD

#### An Innovative Civilian Research Model to Inform Combat-Relevant Prolonged Casualty Care
Chandni Patel, BPH1; Lina V. Mata, MD2; Baidwan Navneet, PhD2; COL (ret) Sean Keenan, MD3; Julia Dixon, MD, MPH4; Elmin Steyn, MBChB5; Hendrick J. Lategan, MBChB68; Shaheem de Vries MBChB, MPL7; Adeloye Adeniji, MBChB, MMed8; Lesley Hodson, MBChB, MMed9; Suzan Mukonkole, MBChB, MMed10; Jeanette Verster, MBChB, MMed11; MAJ Steven G. Schauer, DO, MSCR12; MAJ Andrew D. Fisher, MD, PA-C LP13; MAJ Michael D. April, MD, PhD, MSc14; Adit A. Ginde, MD MPH15; Col Vikhyat S. Bebarta, MD16; Nee-Koi mould-Millman, MD17.

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Institute of Surgical Research, Fort Sam Houston, TX, USA; 13. Resident Physician, Department of Surgery, The University of New Mexico, Albuquerque, NM, USA; 14. Commander, 40th Forward Resuscitative Surgical Detachment, 627th Hospital Center, Fort Carson, CO, USA; 15. Professor and Vice Chair, Department of Emergency Medicine, University of Colorado School of Medicine, Aurora, CO, USA; 16. Professor, Department of Emergency Medicine, University of Colorado School of Medicine, Aurora, CO, USA; 17. Associate Professor, Department of Emergency Medicine, University of Colorado School of Medicine, Aurora, CO, USA

Non-Standard Evacuation Africa
Staff Sergeant Christopher Bryant, SOCAMS, ATP, Paramedic Special Operations Civil Affairs Medical Sergeant B Co, 91st CA BN (SO)(A), Fort Bragg, North Carolina

Ethics in Special Operations Medicine
Staff Sergeant Christopher Bryant, SOCM, ATP, Paramedic Special Operations Civil Affairs Medical Sergeant B Co 91st CA BN (SO) (A), Fort Bragg, North Carolina

A Case of Clinically Significant Hypotension Following TXA Administration
CPT Vanessa Hannick, MD, Faculty Emergency Physician; LTC Daniel Brillhart, MD, Ultrasound Fellowship Director & Faculty Emergency Physician, C.R. Darnall Army Medical Center, Ft Hood, TX; LCDR Austin Yoder, MD, Staff Emergency Physician, US Naval Hospital, Yokosuka, Japan; SFC Cyril Clayton, NATO SOCM NCOIC, International Special Training Centre, Baden-Wurttemberg, Germany; 2d Lt Matthew Gaddy, NREMT-P, 212th RQS, US Air Force, Anchorage, AK

Suicide Bombing Terrorism
*Derrick Tin, MBBS Senior Fellow, BIDMC Disaster Medicine Fellowship, Department of Emergency Medicine, Beth Israel Deaconess Medical Center and Harvard Medical School; *Corresponding Author Jordan Galehan, PhD, Assistant Professor of Criminology, Department of Behavioral Sciences Flagler College; Vesna Markovic, PhD, Professor and Chair Justice, Law and Public Safety Studies, Lewis University; Gregory R. Ciottone, MD, Director, BIDMC Disaster Medicine Fellowship, Department of Emergency Medicine, Beth Israel Deaconess Medical Center, Associate Professor, Harvard Medical School

A Technology to Define Traumatic Brain Injury to Assist With Operator Return to Duty Decision Making and to Optimise Training Prescription and Performance
Mr. Edmond Sorich, Director GLIA Diagnostics. Sydney NSW Australia; Mr Shane Acoro; Mr Daniel Pace INVICTA Prospects Group (AI Technology). Sydney NSW Australia. Directors and Co-founders. Former Australian Special Operations Personnel. Active Reservists.

Practice Variation in Tranexamic Acid Dosing Among Military Mediccs
CPT Evan Stern, MD, USA; (Resident); CPT Sophia Liu, MD, USA; (Staff Physician); LTC Dan Brillhart, MD, FACEP, USA; (Staff Physician) Department of Emergency Medicine, Carl R. Darnall Army Medical Center, Fort Hood, TX

Practice Variation in Tranexamic Acid Dosing Among Military Physicians and Advanced Practice Providers
CPT Evan Stern, MD, USA; (Resident); CPT Sophia Liu, MD, USA; (Staff Physician); LTC Dan Brillhart, MD, FACEP, USA; (Staff Physician) Department of Emergency Medicine, Carl R. Darnall Army Medical Center. Fort Hood, TX

A Large Animal Model Comparison of the LifeFlow Versus Pressure Bag Effects Whole Blood Coagulation
Fabiola Mancha, MS (1); Joseph K. Maddry, MD (1, 2, 3, 4); Steven G Schauer, DO, MS (1, 2, 3); (1) US Army Institute of Surgical Research, JBSA Fort Sam Houston, Texas, USA; (2) Brooke Army Medical Center, JBSA Fort Sam Houston, Texas, USA; (3) Department of Military and Emergency Medicine, Uniformed Services University of the Health Sciences, Bethesda, Maryland, USA; (4) 59th Medical Wing, JBSA Lackland, Texas, USA

Simulations of Blast Exposure on Military Personnel in Explosive Breaching Training Scenarios
George Medan; Staff Engineer Chris Ong; Staff Engineer Ryan Schindler; Staff Engineer Suthlee Wiri, PhD, Principal Engineer, Applied Research Associates, Albuquerque, NM

Severe Hypophosphatemia and Tetany in a Special Operations Combat Dive Candidate
CPT Gerrit Davis, MD, PGY-2 Emergency Medicine Resident, Madigan Army Medical Center Emergency Medicine Residency Program, Joint Base Lewis-McChord, WA; CPT Joshua D. Evans, APA-C, DMO, FAWM, Physician Assistant, 2nd Battalion, 1st Special Forces Group (Airborne), Joint Base Lewis-McChord, WA; LTC Owen McGrane, MD, Department Chief and Attending Emergency Physician, Madigan Army Medical Center Department of Emergency Medicine, Joint Base Lewis-McChord, WA

Pressure Points—A Lifesaving Practice Forsaken in Vain, Findings from the Pressure Points Study
MAJ Regina Pikman Gavrieli, MD1,2; SSG Yotam Lior, MD PhD2; CPT Shaul Gelikas, MD MBA1; MAJ Shiran Levy, MD1,3; COL Avi Benov, MD MHA4,5; MAJ Alon Ahimor, MD1; MAJ Guy Avital, MD1,2; 1. The Trauma and Combat Medicine Branch, Surgeon General’s Headquarters, Israeli Defense Forces, Ramat Gan, Israel; 2. Division of Anesthesia, Intensive Care, and Pain Management, Tel-Aviv Medical Center and Sackler Faculty of Medicine, Tel Aviv University, Tel-Aviv, Israel; 3. Department of Radiology, Hadassah Hebrew University Medical Center, Jerusalem, Israel; 4. The Azrieli Faculty of Medicine, Bar-Ilan University, Safed, Israel; 5. Israeli Defense Forces, Northern Command Surgeon

Automated REBOA: Validation of the First FDA Cleared System in a Hemorrhage Model
Habib Frost, MD, CEO of Neuresource, Copenhagen, Denmark.

Comparison of Endotracheal Intubation Outcomes using Neuromuscular Blockade or Sedation Only in the Prehospital Setting
2LT Henry Melgarejo, MD Candidate, Uniformed Services University of the Health Sciences, Bethesda, MD; LCDR Paul J.D. Roszko, EM Physician, Director for Emergency Medical Services, Naval Medical Forces Atlantic Medical Director, HSCWINGLANT Emergency Medicine Physician, Navy
Insufficient Sleep is Related to Poor Infantry Battle Drill Performance in Special Operations Soldiers
Janna Mantua, PhD, Sleep Research Scientist (Affiliation 1); MAJ Joseph D. Shevchik, DO, Battalion Surgeon (Affiliation 2); CPT Sidhartha Chaudhury, PhD, Research Psychologist (Affiliation 1); Hannah P. Eldringhoff, BS, Clinical Research Coordinator (Affiliation 1); Carolyn A. Mickelson, MPS, Clinical Research Coordinator (Affiliation 1); CPT Ashlee B. McKeon, PhD, Research Psychologist (Affiliation 1) Affiliation 1: Walter Reed Army Institute of Research (WRAIR), Silver Spring, MD, USA. Affiliation 2: 75th Ranger Regiment, Ft. Benning, GA, USA

Addressing Acoustic Blast Injuries in the Prolonged Casualty Care Environment
CPT Jessica Eker, MD, Emergency Medicine Resident; CPT Vanessa Hannick, MD, Faculty Emergency Physician; LTC Dan Brillhart, MD, Emergency Ultrasound Fellowship Director and Faculty Emergency Physician, Carl R. Darnall Army Medical Center Department of Emergency Medicine, Fort Hood, TX; 2LT Matthew Brown, NREMT-P, Medical Student, Uniformed Services University of the Health Sciences, Bethesda, MD SO2; Matt Devorin, SOTM, SEAL Team EIGHT, Virginia Beach, VA

Ultrasound Training for Combat Medics: Lessons Learned from the Fort Hood Medical Simulation Training Center
CPT Jessica Eker, MD, Emergency Medicine Resident; CPT Chelsea Ausman, MD, Emergency Ultrasound Fellow; CPT Vanessa Hannick, MD, Faculty Emergency Physician; LTC Dan Brillhart, MD, Emergency Ultrasound Fellowship Director and Faculty Emergency Physician, Carl R. Darnall Army Medical Center Department of Emergency Medicine, Fort Hood, TX; 2LT Matthew Brown, NREMT-P, Medical Student, Uniformed Services University of the Health Sciences, Bethesda, MD SO2; Mitchell Zwade, SEAL, SOCM, NSW Team 8, Virginia Beach

A Comparison of the Novel, Single-use i-view Video Laryngoscope Versus the Standard Durable Video Laryngoscope in the Emergency Department, A Preliminary Analysis
Jessica Mendez, BS-USAISR; Daniel Resnick-Ault, MD-UCD; Jill Bastman, BSN-UCD; Maj Brit Long, MD-BAMC; Lt Col Joseph K. Maddry, MD-USAISR; Maj William T. Davis, MD-BAMC; Col Vikhyat S. Bebarta, MD-UCD; MAJ Steven G. Schauer, DO, MSCR-USAISR

Characterizing Pediatric Supermassive Transfusion and the Contributing Injury Patterns in the Combat Environment
John D. Hesling (Former Navy LCDR), BS, Medical Student University of Colorado School of Medicine; Aurora, CO; CPT Matthew W. Paulson, BA, Medical Student University of Colorado School of Medicine; Aurora, CO; MAJ Jerome T. McKay (USA; Retired), PhD, Program Manager, CU Anschutz Center for COMBAT Research Instructor of Emergency Medicine University of Colorado School of Medicine; Aurora, CO; Col Vikhyat S. Bebarta, MD, Director, CU Anschutz Center for COMBAT Research Professor of Emergency Medicine and Pharmacology University of Colorado School of Medicine; Aurora, CO; 59th Medical Wing, Science & Technology (59MDW S/T), JBSA-Lackland, TX; Brig Gen Kathleen Flarity, DNP, PhD, Deputy Director, CU Anschutz Center for COMBAT Research Associate Professor of Emergency Medicine University of Colorado School of Medicine; Aurora, CO; Mobilization Assistant to AMC Command Surgeon Headquarters, Air Mobility Command; Scott Air Force Base, IL; COL Sean Keenan (USA; Retired), MD, Assistant Director Prehospital, Trauma, and Operational Strategy, CU Anschutz Center for COMBAT Research University of Colorado School of Medicine; Aurora, CO; Joint Trauma System, Defense Health Agency; JBSA Fort Sam Houston, TX; Uniformed Services University of the Health Sciences; Bethesda, MD; MAJ Andrew D. Fisher, MD, MPAS, General Surgery Resident, Department of Surgery, University of New Mexico School of Medicine; Albuquerque, NM Medical Command, Texas Army National Guard; Austin, TX; COL Matthew A. Borgman, MD, Department of Pediatrics, Brooke Army Medical Center; JBSA Fort Sam Houston, TX; Uniformed Services University of the Health Sciences; Bethesda, MD; MAJ Michael D. April, MD, DPhil, MSc, Commander, 40th FRSD 627th Hospital Center, 1st Medical Brigade; Fort Carson, CO; Uniformed Services University of the Health Sciences; Bethesda, MD; MAJ Steven G. Schauer, DO, MS, Capability Area Manager, US Army Institute of Surgical Research (USAISR); JBSA Fort Sam Houston, TX; Department of Emergency Medicine, Brooke Army Medical Center; JBSA Fort Sam Houston, TX; Uniformed Services University of the Health Sciences; Bethesda, MD

Creation of SMERFTM: A Small Volume Multifunctional Emergency Resuscitation Fluid—Filling an Unmet Need for Damage Control Resuscitation (DCR)
Jonathan S. Jahn, MD, PhD, Professor Emeritus of Anesthesiology, David Geffen School of Medicine at UCLA; Pedro Cabrales, PhD, Professor of Bioengineering, UC San Diego; Allen Rojhani, Medical Student, Drexel University College of Medicine; Hae Won Kim, PhD, Visiting Professor of Biochemistry, Brown University School of Medicine

Resilience at the Tip of the Spear: Identifying the Mindfulness Prescription for Special Operations Forces
MAJ Kevin Butler and MAJ Frank Foss Army Special Forces Officers, Students at the Naval Postgraduate School, Monterey, CA

Combating Lower-Limb Injury Risk Through Foot Strike and Gait Retraining in Active-Duty Service Members
Muller, Lauren, SAPT1; Mathews, Sara, DPT2; Ekstrand, Ilona, PTA2; Leugers, Kelly, DPT, OCS2; Gonnella, Maria, BS2,3; Reilly, Nicholas, PhD, ACSM-CEP2,3; Haltiwanger, Henry, DPT2,3; COL (Ret) Goss, Don, DPT, PhD, OCS, ATC1,2,3; 1. High Point University, High Point, NC 27268; 2. Woman Air Mobility Command; Fort Bragg, NC 28310; 3. The Geneva Foundation, Tacoma, WA 98402

Strategy to Avoid Excessive Oxygen (SAVE-O2) in Major Burn Patients: A Multicenter Cluster Randomized, Stepped Wedge Trial for Targeted Normoxia
Layne Dylla, MD, PhD1; David J. Douin, MD1; Erin L. Anderson, RN1; Jessica Cwik, BS1; Aimee Steinwand, BS1; MAJ Steven G. Schauer, DO, MS2,3,4; John D. Rice, PhD5; Conner Jackson, MSS; Alex Cheng, PhD6; Leopoldo Cancio, MD,
Pulmonary Edema in United States Air Force Special Warfare Assessments
1) Courtney Hintz, MD, MAJ, USAF, Medical Director; 2) Michael Seib II, MD, CIV, Staff Physician; 3) Alex Keller IV, MD, Lt Col, USAF, MC, DFS Assistant Professor of Military and Emergency Medicine, USU, Bethesda, MD; Commander Special Warfare Operational Medicine Squadron, JBSA-Lackland, San Antonio, TX; 4) Hideaki I Tanaka, MD, Clinical Faculty, Undersea and Hyperbaric Medicine, Dept of Emergency Medicine, University of California San Diego, San Diego, CA

Grit VS Fit: Evaluation of Physical Markers in Success of Police Tactical Officers Competing at an International SWAT Event
Lindsay W. Wencel, MD, Emergency Medicine Resident, Orlando Health, Orlando, FL, USA; Jay Laddie, MD, Emergency Medicine Physician, Orlando Health, Orlando, FL, USA; Jesus V. Roa, MD, Emergency Medicine Physician, Orlando Health, Orlando, FL, USA; Chadwick Smith, MD, Trauma and General Surgery Physician, Orlando Health, Orlando, FL, USA; Michael Boyd, MD, Emergency Medicine Resident, Orlando Health, Orlando, FL, USA; Jessica Wanthal, MD, Emergency Medicine Resident, Orlando Health, Orlando, FL, USA; Lindsay Maguire, MD, Emergency Medicine Resident, Orlando Health, Orlando, FL, USA; Michael Caire, MD, Emergency Medicine Resident, Orlando Health, Orlando, FL, USA

Efficacy of a One-Day, Mannequin-Based Extracorporeal Membrane Oxygenation (ECMO) Training Course in Swine (Sus scrofa)
Lt Col Joseph K. Maddry, MD, USAF MC, Deputy Commander (1, 2, 3, 4); R. Madelaine Paredes, PhD, Senior Scientist; (2) CPT Timur Abdurashidov, DO, MC, USA, Emergency Medicine Resident; (3) Joni A. Pociocco, ADN, RN, Research Nurse Coordinator; (1) Maria Castaneda, MS, Laboratory Manager (1, 2); Allyson A. Arana, PhD, Statistician (1, 2); Crystal A. Perez, BSN, RN, Nurse Manager (1, 2); 1. United States Air Force En route Care Research Center; 2. 59th Medical Wing/ST; 3. Department of Emergency Medicine, San Antonio Military Medical Center; 4. Department of Military and Emergency Medicine, Uniformed Services University of the Health Sciences

Management of Combat Casualties During Aeromedical Evacuation From a Role 2 to a Role 3 Medical Facility
Maj Patrick C. Ng, MD, USAF MC, Director En route Care Research (1, 2); Julie Curtwright, BSN, RN, Research Nurse Coordinator (1); Alejandro Mora, MS, Statistician (1); Joni A. Pociocco, ADN, RN, Research Nurse Coordinator (1); Crystal A. Perez, BSN, RN, Research Nurse Coordinator (1); Lauren K. Reeves, MS, MPH, Research Coordinator (1); Lt Col Joseph K. Maddry, MD, USAF MC, Deputy Commander USAISR (1, 2). 1. United States Air Force En route Care Research Center/59th MDW/ST; 2. Department of Emergency Medicine, San Antonio Military Medical Center

Neurologic Outcomes in Trauma Patients with Head Injury Necessitating Advanced Airway Management: A Comparison of Prehospital Nasotracheal, Orotracheal, and Supraglottic Airways to Emergency Department Orotracheal Intubation
Capt Matthew M. Gangidine, MD, USAF, MC, FS (EMS/Research Fellow, Staff Emergency Medicine Physician), Department of Emergency Medicine and Paramedic Division; Steven Hulac, BS, EMTP (Captain for Quality Management), Paramedic Division; David Edwards, BS, EMTP (Assistant Director of Clinical Performance), Paramedic Division; Emily Caruso, MS, MPH (Research Projects Manager), Department of Emergency Medicine; Kevin E. McVaney, MD (Medical Director, Professor, Staff Emergency Medicine Physician), Department of Emergency Medicine and Paramedic Division; Eric Campion, MD (Trauma and Acute Care Surgeon), Department of Surgery; Jason Haukoos, MD, MSc (Director for Research, Staff Emergency Medicine Physician), Department of Emergency Medicine; all from the Ernest E. Moore Shock Trauma Center at Denver Health Medical Center, Denver, CO.

Pediatric Battlefield Trauma: Recommendations for Prehospital Management and Evacuation
CPT Matthew Cohen, MD, Emergency Medicine Resident (1); SSG Levi D. Fisher, SO-ATP, NRP, FP-C, TP-C, Flight Medic; (2) CPT Joseph W. Jude, MD, Emergency Medicine Resident (1); CPT Hugh Hiller, MD, Staff Physician (3); LTC(P) Guyon J. Hill, MD, Staff Physician (1, 4); COL(R) Derek Linklater, MD, Staff Physician (1); 1. Carl R. Darnall Army Medical Center, Fort Hood, TX; 2. Fort Campbell, KY; 3. Womack Army Medical Center, Fort Bragg, NC; 4. Dell Children’s Medical Center, Austin, TX

Outcomes From Tranexamic Acid (TXA) in Traumatic Hemorrhage: A Prospective Cohort Study in a High Trauma, Austere, Prolonged Care Setting
Navneet K. Baidwan, PhD1; Lina V. Mata, MD1; Chandni Patel, BPH2; Kirthika Suresh, PhD3; Brenda Beatty, MS, MPH4; Julia Dixon, MD, MPH5; Shaheem de Vries, MBCB6; MPH6; Hendrick J. Lategan, MBCB7; Adeloye Adenijii, MBCB8; Lesley Hodson, MBCB, MMed9; Suzan Mukonkole, MBCB MMed10; Jeanette Verster, MBCB MMed11; Elmin Steyn, MBCB MMed12; MAJ, Steve Schauer, DO, MS13; Col. Cord Cunningham, MD, MPH14; COL Tyson E. Becker, MD, MPH15; Ernest E. Moore, MD16; Col. Vikhyat Bhandarkar, MD17; and Adit A. Ginde, MD, MPH18; Nee-Kofi Mould-Millman, MD19. 1. Research Associate, Department of Emergency Medicine, University of Colorado School of Medicine, Aurora, CO, USA; 2. Professional Research Assistant, Department of Emergency Medicine, University of Colorado School of Medicine, Aurora, CO, USA; 3. Research Assistant Professor, Department of Biostatistics and Informatics, University of Colorado School of Medicine, Aurora, CO, USA; 4. Analyst lead, Adult and Child Consortium for Health Outcomes Research and Delivery Science (ACCORDS), University of Colorado School of Medicine, Aurora, CO, USA; 5. Assistant Professor, Emergency Medicine, Department of Emergency Medicine, University of Colorado School...
Simulations of Blast Exposure on Military Personnel From 50 Caliber Sniper Rifle Training
Ryan Schindler, Staff Engineer; Suthee Wiri PhD, Principle Engineer; Craig Watry, Principle Engineer Applied Research Associates Inc, Albuquerque, NM, USA

A Volumetric Comparison of Collection Techniques Used in Valkyrie Whole Blood Training
LT Duncan Carlton, MD Emergency Medicine Intern Naval Medical Center San Diego San Diego, CA; LT Samuel Walker, DO Whole Blood Program Director HM2; Cole Jordan Whole Blood Program Manager 1st Marine Division Camp Pendleton, CA

Antarctic Evacuation: A Retrospective Epidemiological Study of Medical Evacuations on US Military Aircraft From Antarctica

Military Medical Evacuation After the Benghazi Embassy Attack, Implications for Military Support of Diplomatic Missions
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Survivability of Trauma Patients Receiving Blood Products in a Civilian Prolonged Care Setting in the Western Cape Province of South Africa
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Hypocalcemia as a Predictor of Mortality and Transfusion
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The Role of Whole Blood in Civilian Trauma: A Literature Review of Whole Blood Transfusions in Military and Civilian Trauma Patients
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Non-invasive Hemoglobin Monitoring: A Review of the Evidence
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Electroceutical Dressing Technology Against Wound Microbial Biofilm Infection
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A Pilot Assessment of the Novel Handheld LifeFlow Device for Rapid Infusion of Blood Products
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Hiding From the Enemy: Assessment of Polychromatic Light Visualization From a Distance
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CNS Information Processing After Heavy Weapons Training in US Navy Special Operators (SO): A Component of the INVICTA Study
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Educating the Provider for the SOF Environment: Results of Implementing the Joint Emergency Medicine Exercise (JEMX)
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Evaluation of Navy Special Operators (SO) During Heavy Weapons Training: the Investigating Training Associated Blast Pathology (INVICTA) Study
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Filling the Trauma Surgical Gap: Utilizing Dead Porcine Tissue for Damage Control Resuscitation and Surgical Training
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Improving Outcomes Associated with Prehospital Combat Airway Interventions, An Unrealized Opportunity
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A Mixed Methods End-User Assessment to Determine the Ideal Supraglottic Airway Device for Inclusion into the Medic's Aid Bag
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A Pilot Study of Hypothermia Prevention in a Hemorrhagic Swine Model
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Abdominal Aortic Junctional Tourniquet-Stabilised (AAJT-S) Can Be Applied Both Successfully and Rapidly by Combat Medical Technician (CMTs)
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Airway Localization and Bolus Training Effects on Surgical Cricothyrotomy Success
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An Analysis of Combat-Related Urologic Injuries
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Axillary Use of Three Junctional Tourniquet Devices in Human Volunteers
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Half a Century of Terrorist Attacks: Weapons Selection, Casualty Outcomes, and Implications for Counter Terrorism Medicine
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Hyperoxia Is Associated With a Greater Risk for Mortality in Critically Ill Traumatic Brain Injury Patients Than in Critically Ill Trauma Patients Without Brain Injury

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Improved Adherence to Best Practice Ventilation Management After Implementation of Clinical Practice Guideline (CPG) for United States Military Critical Care Air Transport Teams (CCATTs)

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Resuscitation From Hemorrhagic Shock After Traumatic Brain Injury With Polymerized Hemoglobin

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Safety and Efficacy of Resuscitation From Hemorrhagic Shock With Human Polymerized Hemoglobin in Guinea Pigs

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Self-Described Training Needs of Special Operations Forces Medics

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When Minutes Matter: A Comparison of Whole Blood Collection Techniques

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