



AIM Poster Presenters

Airway Management

1. **Beyond the Tube: A Survey of Healthcare Provider Knowledge, Confidence, and Decision-Making for Airway Management in Military Prolonged Field Care** | Jacob Provencio; Don Petersen; R. Lyle Hood, University of Texas at San Antonio; Connor J. Evans; Robert A. De Lorenzo, UT Health San Antonio

Clinical Investigation

2. **An Assessment of Laboratory Changes During Autologous Whole Blood Transfusion Training: A Prospective, Observational Study** | Dayana Sifuentes; Fabiola Mancha; Melody A. Martinez; Jessica Mendez; Rocio J. Huaman; Brian J. Kirkwood, D.D.S.; Michael A. Meledeo, Ph.D., U.S. Army Institute of Surgical Research, Joint Base San Antonio – Fort Sam Houston, The Metis Foundation; Allyson A. Arana, Ph.D., The Metis Foundation; Andrew D. Fisher, M.D., University of New Mexico Hospital; Jason B. Corley, Capabilities and Development Integration Directorate, Joint Base San Antonio – Fort Sam Houston; Juliette M. Conte, M.D.; Michael D. April, M.D., D.Phil.; Ian L. Hudson, D.O., Department of Emergency Medicine, Brooke Army Medical Center, Joint Base San Antonio – Fort Sam Houston; Steven G. Schauer, D.O., U.S. Army Medical Center of Excellence, Joint Base San Antonio – Fort Sam Houston, University of Colorado School of Medicine
3. **Comparing IV Securement Devices and Tape-Based Securement in Preventing IV Infiltration in Pediatric Patients at Brooke Army Medical Center** | Kathryn McClure; Sadie Murphy, Brooke Army Medical Center.
4. **Experiences of Clinicians Caring for Patients Receiving Continuous Physiological Monitoring in a Remote Location** | Mamie Tilbury, Henry M. Jackson Foundation for the Advancement of Military Medicine Inc; Lance J. McGinnis; Stephanie J. Raps, 59th Medical Wing, Science and Technology Directorate, Center for Clinical Inquiry, Joint Base San Antonio – Lackland Air

Force Base; Angela K. Phillips, Air Force Medical Command; Rebecca E. Heyne, Tri-Service Nursing Research; Patricia A. Patrician, University of Alabama at Birmingham School of Nursing

5. **Exploring Early Onset Parkinson's Disease: A Retrospective Chart Review of Active-Duty Military Personnel** | Margaux M. Salas, Ph.D., 59th Medical Wing, Office of the Chief Scientist, Joint Base San Antonio – Lackland Air Force Base; Capt Victoria T.P. Nguyen, M.D.; Maj Jessie R. Jacobsen, D.O.; Capt Christian J. Hernandez-Zegada, M.D., Brooke Army Medical Center, Joint Base San Antonio – Fort Sam Houston; Maj Zahari N. Tchopov, M.D., Wilford Hall Ambulatory Surgical Center, Sleep Disorders Center, Joint Base San Antonio – Lackland Air Force Base; Elijah Miranda, The Geneva Foundation; Lt Col Matthew Brock, M.D., Wilford Hall Ambulatory Surgical Center, Sleep Disorders Center, Joint Base San Antonio – Lackland Air Force Base, 59th Medical Wing, Office of the Chief Scientist, Joint Base San Antonio – Lackland Air Force Base; Capt William R. Hoffman, M.D., Brooke Army Medical Center, Joint Base San Antonio – Fort Sam Houston, 59th Medical Wing, Office of the Chief Scientist, Joint Base San Antonio – Lackland Air Force Base

Dental Research

6. **Exploring the Relationship Between Periodontal Diseases and Osteoporosis: Potential Role of Butyrate** | Steven Quintero; Amal M. Sahyoun; Ammaar Abidi; Karima Ait-Aissa; Modar Kassan; Undral Munkhsaikhan, Lincoln Memorial University
7. **Influences of L-PRF on Sleep, Healing and Quality of Life Following Periodontal Surgery** | David Seiler; Jess Cayetano, United States Air Force Post-Graduate Dental School

Emergency Medicine

8. **End User Evaluation of Structured Handoff Didactic Training and Data Summary Tool for En Route Care** | Kimberly Medellin, 59th Medical Wing, Science and Technology Directorate; Capt Cody Ashcroft, M.D., Brooke Army Medical Center; Capt Kaitlin E. Beyrau, M.D., Department of Anesthesia, Brooke Army Medical Center; Elizabeth Mann-Salinas, Ph.D.; Emily Lockamy, 59th Medical Wing, Science and Technology Directorate, En Route Care Research Center; Joseph Lopreiato, M.D., Department of Military and Emergency Medicine, Uniformed Services University of the Health Sciences; Maj William T.

Davis, M.D., Department of Emergency Medicine, Brooke Army Medical Center, 59th Medical Wing, Science and Technology Directorate, En Route Care Research Center, Department of Military and Emergency Medicine, Uniformed Services University of the Health Sciences

9. **Insulin Administration and Safety Characteristics during Military En Route Critical Care Transports** | Anna Garcia, 59th Medical Wing, Science and Technology Directorate; Maj William T. Davis, M.D., Department of Emergency Medicine, Brooke Army Medical Center, 59th Medical Wing, Science and Technology Directorate, En Route Care Research Center, Department of Military and Emergency Medicine, Uniformed Services University of the Health Sciences; Lane Frasier, M.D., University of Cincinnati Medical Center; Maj Mark Cheney, M.D.; Maj Joshua Burkhardt, M.D.; Col Richard Strilka, M.D., 711th Human Performance Wing, United States Air Force School of Aerospace Medicine, University of Cincinnati C-STARS; Shelia Savell, Ph.D., 59th Medical Wing, Science and Technology Directorate, En Route Care Research Center; Lt Col Valerie Sams, M.D., United States Air Force School of Aerospace Medicine, C-STARS Cincinnati; Col Joseph Maddry, M.D., Clinical Resuscitation, Emergency Science, Triage and Toxicology, 59th Medical Wing, Science and Technology Directorate, United States Air Force, Department of Emergency Medicine, Brooke Army Medical Center, Joint Base San Antonio - Fort Sam Houston
10. **Orientation-Independent Airway Suction for Battlefield Prolonged Field Care** | Rakib Hasan; Saketh R. Peri; Maria J. Londono; R. Lyle Hood, University of Texas at San Antonio; Connor J. Evans; Robert A. De Lorenzo, UT Health San Antonio
11. **Prehospital Factors Associated with Calcium Derangements on Arrival to the Trauma Center: A Preplanned Secondary Analysis of a Multicenter, Prospective, Observational Study** | Melody Martinez; Steven G. Schauer; Susannah A. Nicholson; Julie A. Rizzo; Franklin L. Wright; James K. Aden; Michael D. April; Lauran Barry; Alex C. Cheng; Andrew D. Fisher; Jennifer M. Gurney; Isabel A. Hartwig; Brian J. Kirkwood; Brit J. Long; Jessica Mendez; Vikhyat S. Bebart; Andrew P. Cap, The Metis Foundation, U.S. Army Institute of Surgical Research

Emerging Technologies

12. **A Review of AI Applications for Sensory Processing Disorder Assessment: Advances, Challenges, and Future Directions** | Yara Altarawneh; Omar Abbaas, University of Texas at San Antonio
13. **A Review of Nasopharyngeal and Tympanic Membrane Thermometers for Potential Battlefield Use** | Angeles Gomez Soto; Maria J. Londono; Connor J. Evans; R. Lyle Hood; Robert A. De Lorenzo, University of Texas at San Antonio ; Brendon McDermott, University of Arkansas ; Bryan Everitt, UT Health
14. **A System for Development, Testing, and Validation of Automated Ventilation Controllers** | David Berard; Ben Alexander; David Owen; Isiah Mejia; Rachel Gathright; Sofia I. Hernandez Torres; Eric J. Snider, U.S. Army Institute of Surgical Research, Joint Base San Antonio – Fort Sam Houston
15. **Artificial Intelligent Modes for Detecting Trauma-Induced Thoracic Injuries Using Point of Care Ultrasound** | Austin Ruiz; Eric J. Snider; Sofia I. Hernandez Torres, U.S. Army Institute of Surgical Research
16. **Development of a Vasopressor Infusion Controller for Hemorrhagic Shock Resuscitation** | Eric Snider; Caroline Gusson Shimoura; David Berard; Eric J. Snider; Evan Ross; Jonathan Marrero Bermudez; Lawrence Holland; Michael Lopez; Rachel Gathright; Sofia I. Hernandez Torres, U.S. Army Institute of Surgical Research
17. **Development of an EFAST Tissue Phantom Suitable for Modular Thoracic and Abdominal Injuries: Toward Automated Ultrasound Triage** | Isiah Mejia; Carlos Bedolla; Eric J. Snider; Krysta-Lynn Amezcua; Rachel Gathright; Sofia I. Hernandez Torres; Theodore Winter, U.S. Army Institute of Surgical Research
18. **Development of Artificial Intelligent Models for Ultrasound Guided Junctional Tourniquet Placement and Occlusion** | Carlos Bedolla Avalos; Eric J. Snider; Isiah Mejia; James P. Collier III; Sofia I. Hernandez Torres; Theodore Winter, U.S. Army Institute of Surgical Research
19. **Expanded Testbed for Evaluating Automated Shock Resuscitation Controllers Utilizing Vasopressors** | Sofia Hernandez Torres; David Berard; Eddie Martinez; Eric J. Snider, U.S. Army Institute of Surgical Research
20. **Expeditionary Medical and PPE Technologies for the Modern Warfighter** | Girish Srinivas, Ph.D.; Ned Metcalf; David Eisenberg, Ph.D.; Denis Kissounko, Ph.D., TDA Research, Inc.

21. **Marvel: Magnetic Arteriovenous Lattice for Improved Kidney Dialysis** | Joaquin Rodriguez; David Restrepo, Ph.D.; Marlist Villegas Verschoyle; R. Lyle Hood, Ph.D.; Cody Gonzalez, Ph.D., The University of Texas at San Antonio
22. **Non-Invasive Prediction of Mean Arterial Pressure using Photoplethysmography in a Swine Hemmorggage and Resuscitation Study** | Jose Gonzalez; Eric J. Snider, U.S. Army Institute of Surgical Research
23. **Perceived Operational Efficacy of the MOVES SLC During Air Force Critical Care Air Transport Team Simulated Training Exercise** | Luciana Torres; Lance McGinnis; Maj Nina Hoskins; Gloria Rodriguez; Melissa Clemons, 59th Medical Wing, Science and Technology Directorate, Joint Base San Antonio - Lackland Air Force Base; Maj Amber Hadjis, 959th Inpatient Treatment Squadron, Surgical and Medical Services Flight, United States Air Force, Brooke Army Medical Center
24. **Repositionable Aortic Endograft Limb Twisting and Thrombosis** | Linh Nguyen, The University of the Incarnate Word School of Osteopathic Medicine, San Antonio Vascular and Endovascular Clinic, The SAVE Clinic; Less Ochoa, M.D.; Thomas Gianis, M.D.; Wayne Causey, M.D., San Antonio Vascular and Endovascular Clinic

Environmental, Occupational Health & Safety

25. **Lead and Noise Exposure Assessment at an Indoor Shooting Range in Southern California** | Emmanuel Iyiegbuniwe, UT School of Public Health San Antonio, UT Health San Antonio

Health Systems Research

26. **Disparities in Care Experiences Among Children Enrolled in Medicaid Managed Care Plans** | Sara Abu-Aridah, University of Texas at San Antonio

Human Performance

27. **Association of Nontechnical Skills and Cognitive Load with Technical Performance During Simulated EnRoute Critical Care Missions** | Emily Lockamy, 59th Medical Wing, Science and Technology Directorate; Allyson A. Arana, Ph.D.; Elizabeth Mann-Salinas, Ph.D., 59th Medical Wing, Science and Technology Directorate, En Route Care Research Center; Maj William T. Davis,

M.D., 59th Medical Wing, Science and Technology Directorate, En Route Care Research Center, Department of Emergency Medicine, San Antonio Military Medical Center, Department of Military and Emergency Medicine, Uniformed Services University of the Health Sciences; Roger D. Dias, M.D., Ph.D.; Ryan E. Harari, Ph.D., Department of Emergency Medicine, Harvard Medical School, STRATUS Center for Medical Simulation, Mass General Brigham; Steven Yule, Ph.D., Department of Clinical Surgery, University of Edinburgh; Col Vikhyat S. Bebarta, M.D.; Benjamin Easter, M.D., Department of Emergency Medicine, Center for Combat and Battlefield (COMBAT) Research, University of Colorado School of Medicine

28. Cognitive and Personality Differences between Training Outcomes in an Air Force Special Warfare Training Course | Liliya Sakhan; Capt Lily Sakhan; Lt Col Cody Butler, D.P.T., Ph.D.; Lt Garrett Miyaoka; Amanda Patrick, Ph.D.; Thomas Smith; Maj Kaitlin Erickson, Ph.D., United States Air Force

29. Exploring Freediving as a Tool for PTSD Treatment and Enhanced Warfighter Performance | Johnny Carabajal; Cerise Cisneros, Dive Within

30. Nasogastric Tube Tune-Up: Surgical Residents and Med-Surg Nursing Achieve Proficiency in a Standardized Protocol After Rapidly Deployable Targeted Education | Richard Walsh, UT Health San Antonio

Infectious Diseases

31. A Human H5N1 Influenza Virus Expressing Nluc for Real-time Tracking Viral Infection and Identification of Therapeutic Interventions | Ramya Smithaveni Barre; Ruby Escobedo; Esteban Castro; Nathaniel Jackson; Chengin Ye; Luis Martinez-Sobrido, Texas Biomedical Research Institute; Ahmed Mostafa, Texas Biomedical Research Institute, Center of Scientific Excellence for Influenza Viruses, National Research Centre; Mahmoud Bayoumi, Texas Biomedical Research Institute, Cairo University; Anastasija Cupic, Icahn School of Medicine at Mount Sinai; Michael Piepenbrink; James J. Kobie; Mark R. Walter, University of Alabama at Birmingham; Adolfo García-Sastre, Icahn School of Medicine at Mount Sinai, Global Health Emerging Pathogens Institute, Tisch Cancer Institute, Icahn School of Medicine at Mount Sinai

32. A Structural-Functional Platform to Identify Metabolite Antigens for Anti-Microbial or Anti-Cancer Mucosal-Associated Invariant T Cells | Nathalia Rodrigues de Almeida, Texas Biomedical Research Institute; Ariel Laub; Shouxiong Huang, Texas Biomedical Research Institute, Department of Molecular Microbiology and Immunology, The University of Texas at San Antonio

33. **Assessment of Antibiotic Overuse for Uncomplicated Cystitis at Hospital and Emergency Department Discharge** | Brittany Santa Cruz; Kayla Scheps, Pharm.D., Brooke Army Medical Center
34. **Changes to Staphylococcus aureus Morphology, Biofilm Formation, and Adhesion in Response to Honey as an Antibiotic: An Atomic Force Microscopy Study** | Anita Shayan; Nisabella Karais; Nehal Abu-Lail, The University of Texas at San Antonio
35. **Characterizing Reporter-Expressing Recombinant SARS-CoV-2 to Identify Prophylactics and Therapeutics Against Variants of Concern** | Esteban Castro; Chengjin Ye, Texas Biomedical Research Institute; Ramya S. Barre; Luis Martinez-Sobrido, Texas Biomedical Research Institute, UT Health San Antonio; Brian Imbiakha; Hector C. Aguilar, Cornell University; Ahmed Mostafa, Texas Biomedical Research Institute, National Research Centre
36. **Development of Fluorescent Reduction Neutralization Tests (FRNTs) for Identifying Therapeutics Against Tier 1 Viral Threats** | Nathaniel D. Jackson; Luis Martinez-Sobrido, Ph.D., Texas Biomedical Research Institute
37. **Development of Reporter Mouse-Adapted SARS-CoV-2 for In Vitro and In Vivo Monitoring: Advancing Tools for Pathogenesis Studies and Therapeutic Evaluation** | Sarah Hussein, Texas Biomedical Research Institute
38. **Interferon Type Switching in Mycobacterium Tuberculosis Correlates with Disease Control and Immunological Memory** | Caden Munson, The University of Texas at San Antonio, Texas Biomedical Research Institute; Deepak Kaushal; Dhiraj Singh, Texas Biomedical Research Institute
39. **Phylogenomic Framework and Virulence Gene Boundaries of Emerging Shiga Toxin-Producing Escherichia coli O118 Informed by the Comprehensive Profiling of 359 O118 Genomes** | Irvin Rivera, The University of Texas at San Antonio; Sara S.K. Konig; Mark Eppinger, The University of Texas at San Antonio and South Texas Center for Emerging Infectious Diseases; Armando L. Rodriguez, The University of Texas at San Antonio; Joseph M. Bosilevac, U.S. Department of Agriculture, Agricultural Research Service, U.S. Meat Animal Research Center
40. **Role of the Alveolar Lung Environment on Susceptibility to Mycobacterium tuberculosis Infections** | Nadine Chacon; Jordi Torrelles; Anna Allue-Guardia; Matthew Wall; Julia Scordo; Andreu Garcia-Villanova; Anwari Akhter, UT Health San Antonio, Texas Biomedical Research Institute

Maternal Health

41. **Exploring the Health Habits of Pregnant TRICARE Beneficiaries at Risk for Excessive Gestational Weight Gain** | Rosemary Estevez Burns; Victoria Hatchett; Caitlin Cox; Amanda Durbin, Wilford Hall Ambulatory Surgical Center, Joint Base San Antonio – Lackland; Xin-Qun Wang; Carol Copeland, University of Virginia; Gabriella Tillman, Northwest Vista College

Medication Use Evaluation

42. **Hypocalcemia After the Administration of Denosumab (Prolia®) in Chronic Kidney Disease** | Felix Akowuah, Brooke Army Medical Center

Medication Utilization Review: Medication Safety

43. **An Evaluation of Opioid Prescribing Practices on Discharge From the Emergency Department at a Military Treatment Facility** | Prerana Patel, Pharm.D.; Amber Brammer, Pharm.D.; Jacqueline Moya, Pharm.D., Brooke Army Medical Center

Mental Health/Sleep

44. **Exploring Freediving as a Novel Treatment for Post-Traumatic Stress Disorder** | Johnny Carabajal; Cerise Cisneros, Dive Within
45. **Psychometric Properties of the PROMIS - Sleep Disturbance - Short Form in a Naturalistic Sample of Active-Duty U.S. Service Members** | Andrew Snell; Diane-Claire Villarreal; Ashton Dessert; Caley Kropp, Ph.D., Wilford Hall Ambulatory Surgical Center
46. **The Impact of Sleep on Graduation During the US Air Force Special Warfare Training Pipeline** | Sarah Pesquera; Amanda Patrick; Thomas Smith; John D. Mata; Kathleen Hogan; Lt Col Cody R. Butler, US Air Force Special Warfare Human Performance Squadron, Joint Base San Antonio – Lackland
47. **The Military-to-Civilian Questionnaire: A Factor Analysis** | Allison Wright, South Texas Veterans Health Care System; Alicia A. Swan, Polytrauma Rehabilitation Center, South Texas Veterans Health Care System, The University of Texas at San Antonio; Kelly Cheever, The University of Texas at San Antonio;

Michelle A. Salinas, Polytrauma Rehabilitation Center, South Texas Veterans Health Care System; Mary Jo Pugh, Informatics Decision-Enhancement and Analytic Sciences Center of Innovation, VA Salt Lake City Health Care System, Division of Epidemiology, Department of Internal Medicine, University of Utah School of Medicine

Neuroscience

- 48. A Protocol for Differentiating Human-Induced Pluripotent Stem Cells into Functional Suprachiasmatic Nucleus-Like Circadian Neurons** | Sean Tritley; Eric Brey; Amina Qutub, The University of Texas at San Antonio

Noise and Blast Exposure Effects on Hearing

- 49. Changes in Distortion-Product Otoacoustic Emissions in Response to Military Heavy Weapons Exposure** | Quintin Hecht, Au.D.; Howard Greene, Ph.D.; Nicole Larionova, Defense Health Agency Hearing Center of Excellence, zCore Business Solutions, Inc.; Andrea Brzuska; Zafir Abutalib, Defense Health Agency Hearing Center of Excellence, Goldbelt Apex, LLC; Jeffrey Russell, Au.D., Naval Medical Center Camp Lejeune; Brianna Biel, Naval Medical Center Camp Lejeune, Po'okela Solutions, LLC; Devon Kulinski, Au.D., Walter Reed National Military Medical Center, Po'okela Solutions, LLC; Douglas Brungart, Ph.D., Walter Reed National Military Medical Center; Jessica Lanning, Po'okela Solutions, LLC, First Special Forces Command; Christopher Smalt, Ph.D., Massachusetts Institute of Technology – Lincoln Laboratories

Nursing Research

- 50. Complementary and Alternative Medicine Pain Management: An Evidence-Based Practice Intervention for Same Day Surgery Patients** | Rebecca Heyne; Maj Nina Hoskins; Capt Jessica Rangoonwala; Ashley Harper, 59th Medical Wing, Science and Technology Directorate, Lackland Air Force Base
- 51. Copy of Veteran Reintegration: A Descriptive, Exploratory Analysis of Post-9/11 Veterans** | Kirsten Verkamp, South Texas Veterans Healthcare System

- 52. Identifying the Impact of the Implementation of a Quick Reference Tool on an Inpatient Medical-Surgical Unit (7T)** | Taylour Daubert, R.N.; Dana Marie Bartko, R.N.; Mi Jung Herren, R.N.; Melody Giraldo, R.N.; Thomas Martin, L.V.N.; Kimberly More, L.V.N.; Ann Marie Lazarus, Brooke Army Medical Center

Pain Research

- 53. Analgesic Effects of Crocetin in a Rat Model of Extremity Trauma** | Whitney Greene; Jemima Johnson; Cyndi Adkins Anderson; Alberto Mares; Tamara Weaver; Thomas Garza; Carmen Hinojosa-Laborde; LTC Nathan Davidson; Natasha M. Sosanya, United States Army Institute of Surgical Research
- 54. Engaging Neurobehavioral and Molecular Assays to Advance Battlefield Appropriate Analgesics** | Alberto Mares; Ann Friesenhahn; Michaela R. Priess; Miryam Pando; Thomas Garza; Roger Chavez; Keziah Floyd; Whitney Greene; Carmen Hinojosa-Laborde; LTC Nathan Davidson; Bopaiah Cheppudira; Natasha M. Sosanya, U.S. Army Institute of Surgical Research, Joint Base San Antonio - Fort Sam Houston; Jeff Reich, Sparian Biosciences, Inc
- 55. JAK Inhibitors: Novel Analgesics for Burn Pain** | Taylor Hickman, U.S. Army Institute of Surgical Research; Ann M. Friesenhahn; CAPT Connor N. Broyles, Ph.D.; Alex V. Trevino; Thomas H. Garza; Carmen Hinojosa-Laborde, Ph.D.; LTC Nathan L. Davidson, M.D., Ph.D.; Bopaiah P. Cheppudira, Ph.D., Pain and Sensory Trauma Care, U.S. Army Institute of Surgical Research, Joint Base San Antonio - Fort Sam Houston
- 56. Social Support Moderates the Relationship Between Chronic Pain and Academic Self-Efficacy in Student Service Members/Veterans** | Stephanie Daau; Liliane Efinger; Sydney Lozada; Isabel DeLeon; Elizabeth Bolen; Sandra B. Morissette, The University of Texas at San Antonio; Alexis Blessing, Rocky Mountain Regional VA Medical Center

Radiation Countermeasures

- 57. An In Vitro System Using Human Peripheral Blood Mononuclear Cells to Assess Radiation Countermeasures** | Leslie L. Rivera-Lopez; Barbara Christy, U.S. Army Institute of Surgical Research, Joint Base San Antonio - Fort Sam Houston, UT Health San Antonio; Gema Barrera; Maryanne Herzig, U.S. Army Institute of Surgical Research, Joint Base San Antonio - Fort Sam Houston, UT Health San Antonio

Regenerative Medicine and Biomaterials

58. **Improved Performance and Health Recovery of Skeletal Muscle Using Autophagy Modulators After Ischemia Reperfusion Injury** | Hugo Giambini, The University of Texas at San Antonio; Barrera Fernandez V; Rathbone C, Ph.D.; Gonzalez Porras M, Ph.D.; The University of Texas at San Antonio; Denton T, Ph.D., Washington State University Health Sciences
59. **In Vitro Evaluation of Antimicrobial Properties and Cytotoxicity of an Antimicrobial Zeolite Foam Dressing** | Kameel Zuniga, Wesley Cohn, Jack Hutcheson, 59th Medical Wing Science and Technology; Sweta Shrestha, Prabir Dutta, ZeoVation.

Spinal Cord Injury

60. **Implementation of a Bowel and Bladder Care Bundle for the Spinal Cord Injury Patient During Acute Recovery on a Surgical Trauma Inpatient Unit** | Ann Marie Lazarus, Brooke Army Medical Center; Lt Erin Wei, R.N.; Kimberly Murphy, L.V.N.; Alma Guerrero, L.V.N., Brooke Army Medical Center

Trauma Research

61. **A Combat Relevant Polytrauma Model in Swine for Trauma Research** | Maria Castaneda; Alex Nunnery; Dena Norouzi; Denise Manfrini, M.D.; Mark Foster, M.D.; CPT Aaron Alindogan, M.D.; Patrick C. Ng, M.D., The University of Texas Health Science Center at San Antonio; Jae Choi, Ph.D., The Metis Foundation; Kaysie Sachs, 59th Medical Wing, Science and Technology Directorate, Joint Base San Antonio - Lackland Air Force Base; Katie Boutin, University Hospital - Department of Trauma; R. Madelaine Paredes, Ph.D., 59th Medical Wing, Science and Technology Directorate, Joint Base San Antonio - Lackland Air Force Base; Col Joseph K. Maddry, M.D., Brooke Army Medical Center
62. **A Rat Polytrauma Model of Whole-Body Irradiation and Blast Exposure** | Whitney Greene; Matthew McCloskey; Jemima Johnson; Valeta Sanders; Dallas Golden; Michael Urban, U.S. Army Institute of Surgical Research; Jeanine Badrak, Augusta University
63. **Antibiotic Concentrations after Massive Transfusion (ACME) study: Study methods and preliminary data** | Fabiola Mancha; Rocio J. Huaman; Daniel A.

Darlington, Ph.D.; Brian J. Kirkwood, D.D.S.; Jessica Mendez, U.S. Army Institute of Surgical Research, Joint Base San Antonio - Fort Sam Houston; Steven G. Schauer, D.O.; Marisol S. Castaneto, Ph.D.; Pucheng Ke, Ph.D., U.S. Army Medical Center of Excellence, Joint Base San Antonio - Fort Sam Houston; Michael D. April, M.D., D.Phil.; Keith R. Glenn, M.D.; Brit J. Long, M.D.; Joseph K. Maddry, M.D.; Allyson A. Mireles, Ph.D.; Annabel L. Schumaker, Pharm.D.; Matthew D. Smith, M.D.; Julie A. Rizzo, M.D., Brooke Army Medical Center, Joint Base San Antonio - Fort Sam Houston; Erin L. Anderson, R.N.; Vikhyat S. Bebarta, M.D.; Uwe Christians, M.D., Ph.D.; David J. Douin, M.D.; Anne C. Ritter, Ph.D.; Kristine E. Schauer, R.N.; Franklin L. Wright, M.D.; Adit A. Ginde, M.D., University of Colorado School of Medicine

64. Arterial Blood Gas Desynchronization as an Indicator of Multisystem

Complexity Loss in Critical States | Lawrence Renna, The Geneva Foundation; Senthil M. Mudaliar, M.D., Chemical Casualty Care Division, United States Army Medical Research Institute of Chemical Defense; George T. Harea; Daniel S. Wendorff; Brendan M. Beely, Autonomous Reanimation and Evacuation Research Institute, The Geneva Foundation; Teryn R. Roberts, Ph.D.; Andriy I. Batchinsky, M.D., Autonomous Reanimation and Evacuation Research Institute, The Geneva Foundation, Department of Translational Medicine, University of the Incarnate Word School of Osteopathic Medicine

65. Assessing Potential Adjunct Medications such as Hydroxocobalamin and Methylene Blue, with REBOA, in the Management of Hemorrhage in a Large Animal (Sus scrofa) Model of Polytrauma

| Patrick Ng; Maria Castaneda; Alex Nunnery; Dena Norouzi; Denise Manfrini, M.D.; Mark Foster, M.D., UT Health San Antonio; R. Madelaine Paredes, Ph.D., UT Health San Antonio, 59th Medical Wing, Science and Technology Directorate, Joint Base San Antonio – Lackland Air Force Base; CPT Aaron Alindogan, M.D., UT Health San Antonio, Brooke Army Medical Center; Col Joseph K. Maddry, M.D., UT Health San Antonio, 59th Medical Wing, Science and Technology Directorate, Joint Base San Antonio – Lackland Air Force Base, Brooke Army Medical Center; Jae Choi, Ph.D., The Metis Foundation; Kaysie Sachs, Bridge PTS, 59th Medical Wing, Science and Technology Directorate, Joint Base San Antonio – Lackland Air Force Base; Katie Boutin, University Hospital – Department of Trauma

66. Characterizing the Use of Autologous Blood Transfusions for Resuscitation After Trauma: A Trauma Quality Improvement Program (TQIP) Analysis

| Grant Gerstner, Brooke Army Medical Center; Brit Long; Julie Rizzo; Michael April, Brooke Army Medical Center, Uniformed Services University of the Health Sciences; Hendrick Lategan, Stellenbosch University; Andrew Fisher, University

of New Mexico School of Medicine; Steven Schauer, University of Colorado School of Medicine

67. **Conjugation of Short-Chain Fatty Acids to Bicyclic-Amines for Analysis by Liquid Chromatography Tandem Mass Spectroscopy** | Reese Berger, United States Army Institute of Surgical Research; Daniel N. Darlington, United States Army Institute of Surgical Research, UT Health San Antonio
68. **Epidemiology, Risk Factors, and Outcomes Associated With Pediatric Acute Respiratory Distress Syndrome in the Setting of Trauma** | Colby Walton; Hannah Gale, M.D.; Julie Rizzo, M.D., Brooke Army Medical Center, Joint Base San Antonio - Fort Sam Houston; Ashley Sam, D.O., Department of Pediatrics, Washington University in Saint Louis School of Medicine, 375th Medical Group, Scott Air Force Base; Matthew Borgman, M.D., University of Texas Southwestern; Steven Schauer, D.O., University of Colorado School of Medicine
69. **Evaluation of Coagulation Kinetics of TXA and its Derivatives Employing an In Vitro Absorbance-Based Assay** | Kameel Zuniga, 59th Medical Wing Science and Technology; Nathan Gehrke; Martin Burke, University of Illinois Urbana-Champaign
70. **In Vitro Vascular Endothelial Response to Novel Whole Blood Analogue for Resuscitation** | Juan Curbelo; Phylisia Dimas; Jenny Mendez; Bridney Lundquist; Joseph Macaitis; Anthony Pusateri; Clifford Morgan; Dao Ho; Darrin Frye, Naval Medical Research Unit – San Antonio
71. **Long Term Use of the Intrepid Dynamic Exoskeletal Orthosis** | Michelle Lockwood; Sarah N. Pierrie; Tyler J. Cagle; John Fergason; Walter L. Childers, Center for the Intrepid, Brooke Army Medical Center
72. **Multidisciplinary Approach to Successful Hand Reattachment Following Traumatic Near Total Amputation** | Jessica Rodriguez; Savannah L. Potter; Abdulaziz Shammaa, University of the Incarnate Word School of Osteopathic Medicine ; Capt. Richard W. Walsh; Capt. Ashley F. Patterson; Luke D. Perry; Susannah E. Nicholson; Ashley C. McGinity; Brian W. Sager; Jason R. Coffman; Matthew J. Sideman; Lori Pounds, UT Health San Antonio
73. **Novel Analgesic, AMT-143, does not alter Survival after Extremity Trauma and Hemorrhage in Rats** | Miryam Pando; Tamara Weaver; Roger Chavez; Kathy Ryan, Nathan Davidson, Carmen Hinojosa-Laborde, U.S. Army Institute of Surgical Research

- 74. Platelet Receptor Shedding as a Mechanism of Platelet Clearance Following Polytrauma Managed with ECLS** | Teryn Roberts; Yanyi Zang; Antoine Persello; Danielle Wendorff; Brendan Beely; George Harea; Andriy Batchinsky, The Geneva Foundation ; Alex Do; Armaan Somany, University of the Incarnate Word School of Osteopathic Medicine
- 75. Portable Viscoelastic Coagulation Monitor for Pre-Hospital and Point-of-Care Application in Combat Polytrauma Managed With ECLS and Systemic Anticoagulation** | Danielle K. Berninzoni; Teryn R. Roberts, Ph.D.; Andriy I. Batchinsky, M.D., Autonomous Reanimation and Evacuation Program, The Geneva Foundation, Department of Translational Medicine, University of the Incarnate Word School of Osteopathic Medicine; Ivan Slichko, M.D.; Georgij Roschin, M.D., Department of Emergency Medicine and Military Medical Training, Shupyk National Healthcare University; Serhii Korol, M.D.; Kostjantyn Gumeniuk, M.D.; Andriy Rusnak, M.D., Military Medical Academy; Serhii Sudakevych, M.D.; Igor Kuzmych, M.D.; Borys Todurov, M.D., Heart Institute of the Ministry of Health
- 76. Prognostic Values of Composite Lactate Metrics in ECMO Patients: A Retrospective Analysis** | Seth Lawson; Marla Gutierrez; Ellynor Herico, R.N., Brooke Army Medical Center, 59th Medical Wing, Science and Technology Directorate; Jason Thomas, M.D.; Julie A. Rizzo, M.D., Brooke Army Medical Center, Uniformed Services University of the Health Sciences
- 77. Toward Open-Loop ECLS Control: Independent Determinants of Systemic Arterial Blood Gas Parameters** | Lawrence Renna, The Geneva Foundation; George T. Harea; Daniel S. Wendorff; Brendan M. Beely, Autonomous Reanimation and Evacuation Research Institute, The Geneva Foundation; Teryn R. Roberts, Ph.D.; Andriy I. Batchinsky, M.D., Autonomous Reanimation and Evacuation Research Institute, The Geneva Foundation, Department of Translational Medicine, University of the Incarnate Word School of Osteopathic Medicine
- 78. Trauma and Hemorrhage Lead to Changes in Fecal Short-Chain Fatty Acids** | Reese Berger, United States Army Institute of Surgical Research; Daniel N. Darlington, United States Army Institute of Surgical Research, Department of Surgery, Trauma and Emergency Surgery, UT Health San Antonio; Jeffrey D. Keese; Xiaowu Wu, Blood and Shock Resuscitation, United States Army Institute of Surgical Research; Susannah E. Nicholson, Department of Surgery, Trauma and Emergency Surgery, University of Texas Health

- 79. Validation of Embedded PCL-5 Symptom Validity Indices in Active-Duty Military Population** | Alexis Troili-Fletes, United States Air Force; Cammy Chicota-Carroll, Ph.D., Clinical Neuropsychologist; James Aden, Ph.D., Statistician, Brooke Army Medical Center; Patrick Armistead-Jehle, Ph.D., Clinical Neuropsychologist, Munson Army Medical Center

Traumatic Brain Injury

- 80. Exploring the Diagnostic Potential of Photoplethysmography in Traumatic Brain Injuries** | Morteza Seidi; M.D., Nazmul Islam Shuzan; Randee Hernandez; Carlos Cruz Garza; Peace Msengi; Marzieh Memar, The University of Texas at San Antonio
- 81. Influence of Temperature on Impact Dynamics in Helmet Padding** | Morteza Seidi; Alireza Abbasi Ghiri, The University of Texas at San Antonio
- 82. Systemic Coagulation and Blunt Traumatic Brain Injury: Is There a Link?** | Angela M. Mitchell, Autonomous Reanimation and Evacuation Research Institute, The Geneva Foundation, Department of Translational Medicine, University of the Incarnate Word School of Osteopathic Medicine, Neurosurgery Education and Research Virtual Experience Group, Brain and Spine Group, Bridgewater, N.J.; Teryn R. Roberts, Ph.D.; Andriy Batchinsky, M.D., Autonomous Reanimation and Evacuation Research Institute, The Geneva Foundation, Department of Translational Medicine, University of the Incarnate Word School of Osteopathic Medicine; Yanyi Zang, Ph.D., Autonomous Reanimation and Evacuation Research Institute, The Geneva Foundation
- 83. The Effect of Environmental Hypothermia on Survival in Isolated Blunt Traumatic Brain Injury** | Rebecca McCune, Brooke Army Medical; Brit J. Long, M.D., Julie A. Rizzo, M.D., Department of Emergency Medicine, Brooke Army Medical Center, Department of Military and Emergency Medicine, Uniformed Services University of the Health Sciences; Bradley A. Dengler, M.D., Department of Neurosurgery, Uniformed Services University of the Health Sciences, Department of Neurosurgery, Walter Reed National Military Medical Center; Geoffrey W. Peitz, M.D., Margaret A. Moran, M.D., Department of Surgery, Brooke Army Medical Center; Michael D. April, M.D., D.Phil., M.Sc., Department of Military and Emergency Medicine, Uniformed Services University of the Health Sciences; Steven G. Schauer, D.O., M.S., Departments of Anesthesiology and Emergency Medicine, Center for Combat and Battlefield (COMBAT) Research, University of Colorado School of Medicine

84. Trait and State Resilience Factors among Comorbidity Profiles of Veterans |

Michelle Salinas, South Texas Veterans Health Care System - Department of Veterans Affairs; Samantha Eaton, South Texas Veterans Health Care System; Alicia Swan, Polytrauma Rehabilitation Center, South Texas Veterans Health Care System; Mary Jo Pugh, Informatics, Decision-Enhancement and Analytic Sciences Center (IDEA 2.0), VA Salt Lake City Health Care System, Department of Internal Medicine, University of Utah