Poster Session II

POSTER SESSION 2

WEDNESDAY, 22 AUGUST 2018

REHABILITATION FOLLOWING LIMB AMPUTATION & TRAUMA

MHSRS-18-0027 POSTER SESSION 2 - #001
Does Screw Location Affect the Risk of Subtrochanteric Femur Fracture After Femoral Neck Fixation?
Presentation Author: LT Erica Crump
LT Erica Crump, MD, Michael Quacinella, DO, MPH, Bradley Deafenbaugh, MD
Naval Medical Center San Diego, San Diego, CA

MHSRS-18-0043 POSTER SESSION 2 - #002
A Novel, Portable, Combat-Ready Device for Limb Recovery & Preservation: The Universal Limb Stasis System for Extended Storage ULISSES
Presentation Author: Mr. Rafael Veraza
Rafael J. Veraza, MPH, Edward Gelineau, BS, Leonid Bunegin, BS
University of Texas Health San Antonio, San Antonio, TX

MHSRS-18-0061 POSTER SESSION 2 - #003
Mental & Physical Health, & Long-Term Quality of Life Among Service Members with Extremity Injuries
Presentation Author: Dr. Cameron McCabe
Cameron T. McCabe, PhD1, Jessica R. Watrous, PhD1, Susan L. Eskridge, PhD1, Judy L. Dye, MS1, Daniel I. Sack, BA2, Michael R. Galarneau, MS3
1Leidos, Inc, San Diego, CA, 2Axiom, San Diego, CA, 3Naval Health Research Center, San Diego, CA

MHSRS-18-0079 POSTER SESSION 2 - #004
Relationships Between Low Back Pain, Mental Health Symptoms, & Health-Related Quality of Life Among Wounded Warrior Recovery Project Participants
Presentation Author: Dr. Jessica Watrous
Jessica R. Watrous, PhD1, Cameron T. McCabe, PhD1, Gretchen Moran, BS1, Shawn Farrokhi, PT, PhD2,3, Brittney Mazzone, PT, DPT2,3, Daniel I. Sack, BA1, Mary C. Clouser, PhD1, Michael R. Galarneau, MS4
1Leidos, Inc, San Diego, CA, 2DoD-VA Extremity Trauma & Amputation Center of Excellence, Bethesda, MD, 3Naval Medical Center San Diego, San Diego, CA, 4Naval Health Research Center, San Diego, CA

MHSRS-18-0208 POSTER SESSION 2 - #005
Specialized Orthotic & Prosthetic Componentry Through the Use of Advanced Digital & Conventional Techniques
Presentation Author: Dr. Peter Liacouras
Peter C. Liacouras, PhD1,2, Peter P. Anderson, CP3, John P. Lichtenberger, MD1,2, Jamie O. Gandert, CP1
1Walter Reed National Military Medical Center, Bethesda, MD, 2Uniformed Services University of the Health Sciences, Bethesda, MD

MHSRS-18-0244 POSTER SESSION 2 - #006
Microwave Ablation of Eccrine Glands as a Treatment for Residual Limb Hyperhidrosis
Presentation Author: Capt Timothy Durso
Capt Timothy Durso, MD1, Joshua Kentosh, DO2, Nathan Miletta, MD1
1WHASC, JBSA-Lackland AFB, TX, 2Soderstrom Skin Institute, Peoria Heights, IL
MHSRS-18-0310  POSTER SESSION 2 - #007
Prevalence & Relationship of Low Back Pain & Psychosocial Factors After Lower Limb Amputation Among Wounded Warrior Recovery Project Participants
Presentation Author: Dr. Brittney Mazzone
Brittney Mazzone, PT, DPT1,2, Shawn Farrokhi, PT, PhD1,2, Brad D. Hendershot PhD1,3,4, Cameron T. McCabe, PhD5, Jessica R. Watrous, PhD6
1DoD-VA Extremity Trauma & Amputation Center of Excellence, Bethesda, MD, 2Naval Medical Center San Diego, San Diego, CA, 3Walter Reed National Military Medical Center, Bethesda, MD, 4Uniformed Services University of the Health Sciences, Bethesda, MD, 5Naval Health Research Center, San Diego, CA

MHSRS-18-0321  POSTER SESSION 2 - #008
Interventions to Manage Residual Limb Ulceration Due to Prosthetic Use in Lower Extremity Amputees. A Systematic Literature Review
Presentation Author: CPT M. Jason Highsmith
CPT M. Jason Highsmith1,2, Tyler D. Klenow3, Casey R. Andrews1,4, Katherine L. Lewis1, Rachel C. Bradley4, Jessica M. Ward1, John J. Orriola7, James T. Highsmith4,9
1University of South Florida, Tampa, FL, 2Extremity Trauma & Amputation Center of Excellence, U.S. Department of Veterans Affairs, Tampa, FL, 3319th Minimal Care Detachment, U.S. Army Reserves, Pinellas Park, FL, 4James A. Haley Veterans’ Hospital, Tampa, FL, 5Dermatology Surgery Institute, Lutz, FL

MHSRS-18-0364  POSTER SESSION 2 - #009
Transhumeral Osseointegration: Rehabilitation & Functional Outcomes
Presentation Author: Mrs. Michelle Nordstrom
Michelle Nordstrom, OTR/L2, Mark Beachler, CPO2, Bradford Hendershot1,3, Barri Schnall, PT3, Christopher Dea3r1,3, Benjamin Potter1, Jonathan Forsberg4, Paul Pasquina1,2
1Uniformed Services University of the Health Sciences (USUHS), Bethesda, MD, 2Walter Reed National Military Medical Center (WRNMMC), Bethesda, MD, 3DOD-VA Extremity Trauma & Amputation Center of Excellence, Bethesda, MD, 4USUHS, WRNMMC, Bethesda, MD

MHSRS-18-0368  POSTER SESSION 2 - #010
Osseointegration in Bilateral Above Knee Amputees Following Blast: 2 Year Follow Up Results from the Initial Cohort of UK Service Personnel
Presentation Author: Ms. Louise McMenemy
Louise McMenemy1, Arul Ramasamy1,2, Ben Williamson7, Kate Sherman1, Rhodri Phillip1, Jon Kendrew2
1Imperial College London, UK, 2Royal Centre for Defence Medicine, Birmingham, UK, 3Defence Medical Rehabilitation Centre, Headley Court, Epsom, UK

MHSRS-18-0413  POSTER SESSION 2 - #011
Outcomes After Heel Pad Degloving Injuries
Presentation Author: Dr. Andrew Chen
Andrew T. Chen, MD, MPH1, Lisa M. Reider, PhD2, Jason Luly, MS2, Daniel O. Scharfstein, ScD2, Michael J. Bosse, MD1,2, Major Extremity Trauma Research Consortium2
1Carolinas Medical Center, Charlotte, NC, 2Johns Hopkins Bloomberg School of Public Health, Baltimore, MD

MHSRS-18-0575  POSTER SESSION 2 - #012
Variable-Stiffness Robot Orthosis Enables Dynamic Activities in Limb-Salvage Veterans
Presentation Author: Dr. Michael Yip
Taylor West1, Alfredo Lucas1, Roshan Nayak1, Alva Liang3, John Collins, BSc2,3, Richard Miltenberger, BA7, Trevor Kingsbury, MA2, Marilynn Wyatt, MA2, Michael Yip, PhD1
1University of California San Diego, San Diego, CA, 2University of Delaware, Newark, DE, 3Naval Medical Center San Diego, San Diego, CA
MHSRS-18-0600  POSTER SESSION 2 - #013
Patient Reported Outcomes for Patients Utilizing an IDEO Brace
Presentation Author: Mr. Trevor Kingsbury
Trevor Kingsbury, MA, John-David Collins, MA, ATC, Julianne Stewart, PT, DPT, Richard Miltenberger, CPO, Marilynn Wyatt PT, MA Naval Medical Center San Diego, San Diego, CA

MHSRS-18-0620  POSTER SESSION 2 - #014
Life After Extremity Trauma: Care Organization & Design Features that Contribute to Patient Success in Social Reintegration
Presentation Author: Dr. Seth Messinger
Paul F. Pasquina, MD
Uniformed Services University of the Health Sciences, Bethesda, MD

MHSRS-18-0710  POSTER SESSION 2 - #015
Excision vs. Amputation: Lessons on the Treatment of Battlefield Injuries of the Upper Extremities During the Civil War
Presentation Author: Dr. Kristen Pearlstein

MHSRS-18-0718  POSTER SESSION 2 - #016
Ultrasound-Based Muscle Activity Sensing for Intuitive Visual Feedback & Training of Upper-Extremity Amputees
Presentation Author: Dr. Biswarup Mukherjee
Biswarup Mukherjee, PhD1, Ananya Dhawan, BS1, Shriniwas Patwardhan, MS1, Joseph Majdi, MS1, Rahsaan Holley, MS, OTR2, Wilsaan Joiner, PhD1, Michelle Harris-Love, PT, PhD1, Siddhartha Sikdar, PhD1
1George Mason University, Fairfax, VA, 2MedStar National Rehabilitation Hospital, Washington, DC

MHSRS-18-0737  POSTER SESSION 2 - #017
Sagittal Pelvic Motion of Patients with Unilateral, Transtibial Amputations Compared to Healthy Military Controls While Running Overground
Presentation Author: Ms. Marilynn Wyatt
Katherine Sharp, MS, Julianne Stewart, PT, DPT, Jenny Anne Maun, BS, Kimberly Rowe, BS, John-David Collins, MA, ATC, Tatiana Djafar, MS, Trevor Kingsbury, MA, Marilynn Wyatt, PT, MA
Naval Medical Center San Diego, San Diego, CA

MHSRS-18-0747  POSTER SESSION 2 - #018
Medicine Ball Throw to Evaluate Postural Stability in Persons with Amputation
Presentation Author: Ms. Marilynn Wyatt
Kimberly Rowe, BS, Julianne Stewart, PT, DPT, Katherine Sharp, MA, Jenny Anne Maun, BS, Marilynn Wyatt, PT, MA
Naval Medical Center San Diego, San Diego, CA

MHSRS-18-0787  POSTER SESSION 2 - #019
Powered Knee/Ankle Prostheses for Improving Walking Capabilities in Individuals with Transfemoral Amputation
Presentation Author: Dr. Walter Childers
Aaron J. Young1, Krishan Bhakta1, Jonathan Camargo Leyva1, W. Lee Childers2,3
1Georgia Institute of Technology, Atlanta, GA, 2Brooke Army Medical Center, JBSA Fort Sam Houston, TX, 3Extremity Trauma & Amputation Center of Excellence, JBSA Fort Sam Houston, TX

MHSRS-18-0820  POSTER SESSION 2 - #020
Comparison of Functional Status Between Service Members After Deployment-Related Amputations & Severe Lower Limb Injuries
Presentation Author: Dr. Susan Eskridge
Susan L. Eskridge, PT, PhD1, Jessica R. Watrous, PhD1, Cameron T. McCabe, PhD1, Daniel I. Sack, BA2, Mary C. Clouser, PhD1, Michael R. Galanneau, MS, NREMT3
1Leidos, San Diego, CA, 2Axiom, San Diego, CA, 3Naval Health Research Center, San Diego, CA
Comparison of Patient-Reported Outcomes & Functional Outcome Measures Over the Return to Run Program for Lower Extremity Traumatic Injuries

Presentation Author: Ms. Amanda Wingate
Amanda Wingate, BA, Julianne Stewart, PT, DPT, John David Collins, MA, Trevor Kingsbury, MA, Marilynn Wyatt, PT, MA Naval Medical Center San Diego, San Diego, CA

The Association of Specific Upper Extremity Injuries with Delayed Amputation

Presentation Author: Dr. Susan Eskridge
Susan L. Eskridge, PT, PhD1, Shawn Farrokhi, PT, PhD2-3, Jill Cancio, OTD, OTR, CHT1-4, Annemarie Orr, OTD, OTR/L5, Brittney Mazzone, PT, DPT2-3, Michael R. Galameau, MS, NREMT
1Leidos, San Diego, CA, 2Naval Medical Center San Diego, San Diego, CA, 3Extremity Trauma & Amputation Center of Excellence, San Antonio, TX, 4Center for the Intrepid, San Antonio, TX, 5Walter Reed National Military Medical Center, Bethesda, MD, 6Naval Health Research Center, San Diego, CA

Occupational Therapy Practice Patterns for Military Service Members with Upper Extremity Amputations

Presentation Author: Ms. Kaeley Shannon
Kaeley Shannon, MPH1, Susan L. Eskridge, PT, PhD2, Shawn Farrokhi, PT, PhD3-4, Jill Cancio, OTD, OTR, CHT4-5, Annemarie Orr, OTD, OTR/L6, Brittney Mazzone, PT, DPT4-5, Michael R. Galameau, MS, NREMT7
1Axiom, San Diego, CA, 2Leidos, San Diego, CA, 3Naval Medical Center San Diego, San Diego, CA, 4Extremity Trauma & Amputation Center of Excellence, San Antonio, TX, 5Center for the Intrepid, San Antonio, TX, 6Walter Reed National Military Medical Center, Bethesda, MD, 7Naval Health Research Center, San Diego, CA

Controlling Axonal Regeneration with Acellular Nerve Allograft Reduces Neuroma Formation Following Peripheral Nerve Transection in Both a Rodent & Swine Model

Presentation Author: CDR Scott Tintle

Optimization of Photo-Crosslinkable Collagen-Enriched Ink for 3D Printing of Peripheral Nerve Conduits

Presentation Author: Ms. Angela Dixon
Angela Dixon, PhD, Shaily H. Jariwala, PhD, Zoe Bilis, BS, Luis M. Alvarez, PhD
Uniformed Services University of the Health Sciences, Bethesda, MD, & Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc, Bethesda, MD

Footstrike Pattern Effects on Sagittal Knee Mechanics in Runners with Transtibial Amputation: Initial Observations

Presentation Author: Ms. Marilynn Wyatt
Tatiana Djafar, MS, Katherine Sharp, MA, Julianne Stewart, PT, DPT, Jenny Anne Maun, BS, Kimberly Rowe, BS, John-David Collins, MA, Trevor Kingsbury, MA, Marilynn Wyatt, PT, MA Naval Medical Center San Diego, San Diego, CA

Impact of Fire Arms Training in a Virtual Reality Environment on Occupational Performance (Marksmanship) in a Polytrauma Population

Presentation Author: Dr. Jill Cancio
Jill M. Cancio1-2, CPT Robert Oliver3, LTC (Ret) Kathleen E. Yancosek4
1Brooke Army Medical Center, JBSA Fort Sam Houston, TX, 2Extremity Trauma & Amputation Center of Excellence, JBSA Fort Sam Houston, TX, 385th Combat Stress Control Detachment, Fort Hood, TX
MHSRS-18-0950  POSTER SESSION 2 - #028
Mechanical & Finite Element Analysis of an Innovative Orthopedic Implant Designed to Improve the Human Prosthetic Interface
Presentation Author: Dr. Larry Smith
Tejas P. Chillale¹, Nam H. Kim¹, Larry N. Smith²
¹University of Florida, Gainesville, FL, ²M:14,22-33, LLC, Gainesville, FL

MHSRS-18-1004  POSTER SESSION 2 - #029
Osseointegrated Prosthesis for the Rehabilitation of Amputees (OPRA) in the United States
Presentation Author: LTC Benjamin K. Potter
LTC BK Potter, MD¹, RL Wurstrack, MD², M Garibaldi³, MD Beachler¹, AE Carrasco², M Nordstrom¹, JM Souza, MD¹, RJ O'Donnell, MD¹, JA Forsberg, MD¹
¹Walter Reed National Military Medical Center, Bethesda, MD, ²University of California San Francisco, San Francisco, CA, ³Uniformed Services University of the Health Sciences, Bethesda MD

MHSRS-18-1055 - POSTER SESSION 2 - #030
The Influence of Return to Run Program on Foot Strike & Loading Rate While Running Using a Passive-Dynamic Ankle-Foot Orthosis
Presentation Author: Mrs. Marilyn Wyatt
Jenny Anne Maun, BS, Katherine Sharp, MS, Julianne Stewart, PT, DPT, Kimberly Rowe, BS, Marilyn Wyatt, PT, MA Naval Medical Center San Diego, San Diego, CA

MHSRS-18-1056 - POSTER SESSION 2 - #031
NeuralGlider-Cortical: A Neural Implant Insertion System Using Ultrasonic Vibration to Reduce Insertion Force & Tissue Dimpling, for Improved Placement of Penetrating Microelectrode Arrays
Presentation Author: Dr. Roger Bagwell
Ryan S. Clement, PhD, Natasha N. Tirk, PhD, Eric D. Ashuckian, Jenna K. Greasier, Timothy J. Higgins, Olga M. Grove, PhD, Katherine M. Erdley, Roger B. Bagwell, PhD Actuated Medical Inc, Bellefonte, PA

MHSRS-18-1075  POSTER SESSION 2 - #032
Assessing the Feasibility of a Novel Non-Invasive Sensor for Guiding Wounded Warrior Rehabilitation
Presentation Author: Mrs. Allison Symnsack
Matthew E. Miller, MD¹,², Katherine Bach, BA²,³, Allison H. Symnsack, DPT²,³, William H. Sharp, BS¹, Brad M. Isaacson, PhD, MBA, MSP²,⁴, Paul Pasquina, MD¹,²
¹Walter Reed National Military Medical Center, Bethesda, MD, ²University of Health Sciences, Bethesda, MD, ³The Henry M. Jackson Foundation for the Advancement of Military Medicine, Bethesda, MD, ⁴Geneva, Tacoma, MD

MHSRS-18-1123  POSTER SESSION 2 - #033
Testing the Significance of Socket Motion on Residual Limb Health
Presentation Author: Dr. Cameron Rink
Cameron Rink, PhD, MBA¹, Matthew Wernke, PhD², Surya Gnyawali, PhD¹, Mark Tomero, MD¹, Alexander Albury, CPO², James Colvin, MS², Christopher Dearth, PhD³,⁵, Brad Hendershot, PhD³,⁵, Chandan K. Sen, PhD¹
¹The Ohio State University, Columbus, OH, ²The Ohio Willow Wood Company, Mt. Sterling, OH, ³DoD-VA Extremity Trauma & Amputation Center of Excellence, Bethesda, MD, ⁴Walter Reed National Military Medical Center, Bethesda, MD, ⁵Uniformed Services University of the Health Sciences, Bethesda, MD

MHSRS-18-1199  POSTER SESSION 2 - #034
(No Title listed on Abstract)
Presentation Author: Dr. Brittney Mazzone
Brittney Mazzone, PT, DPT, Adam Yoder, Shawn Farrokhi, PT, PhD
DoD-VA Extremity Trauma & Amputation Center of Excellence, San Diego, CA & Naval Medical Center San Diego, San Diego, CA
MHSRS-18-1257  POSTER SESSION 2 - #035
Improved Prosthetic Functionality Through Advanced Hydraulic Design
Presentation Author: Mr. Christian Stray
Jos Poirters

MHSRS-18-1332  POSTER SESSION 2 - #036
The Utility of the DoD/VA Mobile Device Outcomes Based Rehabilitation Program (MDORP): An Auditory Biofeedback Intervention for Real-Time Gait Correction & Prescription-Based Exercise Program for Service Members & Veterans with Lower Limb Amputation
Presentation Author: Dr. Ignacio Gaunaurd
Ignacio Gaunaurd, PhD, MSPT1, Katherine Bach, BA2,3, COL (Ret) Barbara Springer, PhD, PT2,3, Allison Sysmsack, PT, DPT2,3, Sheila Clemens, PhD, MPT1,4, Jennifer Lucarevic, PT, DPT1,4, Anat Kristal, PT, MscPT1,4, Christopher Bennett, PhD1,4, Michele Raya, PhD, PT1,4, Brad Isaacson, PhD, MBA, MSF1,5, Vibhor Agrawal, PhD4, Brooks Applegate, PhD4, Robert Gailey, PhD, PT1,4, COL (Ret) Paul Pasquina, MD2,3,5
1Miami Veterans Affairs Healthcare System, Miami, FL, 2Walter Reed National Military Medical Center, Bethesda, MD, 3Henry Jackson Foundation, Bethesda, MD, 4University of Miami, Coral Gables, FL, 5Uniformed Services University of the Health Sciences, Bethesda, MD, 6Western Michigan University, Kalamazoo, MI

MHSRS-18-1363  POSTER SESSION 2 - #037
Trends in Post-Amputation Weight Change for Service Members After a Unilateral Transtibial Versus Transfemoral Amputation: Two Year Follow Up
Presentation Author: Mr. Adam Yoder
Adam Yoder1,2, Brittney Mazzone, PT, DPT1,2, Shawn Farrokhi, PT, PhD1,2
1DoD-VA Extremity Trauma & Amputation Center of Excellence, San Diego, CA, 2Naval Medical Center San Diego, San Diego, CA

MHSRS-18-1384  POSTER SESSION 2 - #038
Comparing Immediate & Delayed Deployment-Related Amputations
Presentation Author: Ms. Katheryne Perez
Katheryne Perez, MPH1, Susan Eskridge, PT, PhD1, Michael R. Galarneau, MS, NREMT2
1Leidos, San Diego, CA, 2Naval Health Research Center, San Diego, CA

MHSRS-18-1447  POSTER SESSION 2 - #039
Comparing Trunk & Pelvis Motion in Individuals with Lower Limb Reconstruction & Transtibial Amputation
Presentation Author: Dr. Elizabeth Russell Esposito
Elizabeth Russell Esposito, PhD1,2, Brad D. Hendershot, PhD1,4, Jason M. Wilken, PhD, PT1,2,5
1Extremity Trauma & Amputation Center of Excellence, Bethesda, MD, 2Center for the Intrepid, Brooke Army Medical Center, JBSA, Fort Sam Houston, TX, 3VA Puget Sound Health Care System, Seattle, WA, 4Walter Reed National Military Medical Center, Bethesda, MD, 5University of Iowa, Iowa City, IA

MHSRS-18-1454  POSTER SESSION 2 - #040
Service Members with Lower Limb Amputations Exhibit Sedentary Physical Activity Levels
Presentation Author: Dr. Elizabeth Russell Esposito
Elizabeth Russell Esposito, PhD1,2, Barri L. Schnall, PT4, Brad D. Hendershot, PhD1,4, Jason M. Wilken, PhD, PT1,2,5
1Extremity Trauma & Amputation Center of Excellence, 2Center for the Intrepid, Brooke Army Medical Center, Fort Sam Houston, TX, 3VA Puget Sound Health Care System Center for Limb Loss & Mobility, Seattle WA, 4Walter Reed National Military Medical Center, Bethesda, MD, 5University of Iowa, Iowa City, IA

MHSRS-18-1491  POSTER SESSION 2 - #041
Initial Stability of a Novel Percutaneous Osseointegrated Implant with Proximal Interlocking Screws for Transhumeral Amputees
Presentation Author: Mr. Alex Drew
Alex J. Drew1,2, Carolyn E. Taylor1,2, Robert Z. Tashjian, MD2, Peter N. Chalmers, MD2, Heath B. Henninger, PhD1,2, Kent N. Bachus, PhD1,2
1University of Utah Orthopaedic Center & SLC VA Medical Center, Salt Lake City, UT, 2University of Utah, Salt Lake City, UT
Targeted Reinnervation in the Amputee Patient - Updates for Narcotic Use Trends

Presentation Author: Dr. Jason Hehr

Jason D. Hehr, MD, J. Byers Bowen, MD, John Alexander, MD, Lauren Mioton, MD, Sumanas W. Jordan, MD, Julie M West, PA-C, Thomas Scharschmidt, MD, Joel Mayerson, MD, Gregory A. Dumanian, MD, Ian L. Valerio

1The Ohio State Wexner Medical Center, Columbus, OH, 2Northwestern University Feinberg School of Medicine, Chicago, IL, 3Walter Reed National Military Medical Center, Bethesda, MD

Relationship Between Number of Physical Therapy Visits & Gait-Related Outcomes in Patients with Below-Knee Amputation

Presentation Author: Dr. Julianne Stewart

Julianne Stewart, PT, DPT, Michael Marks, MS, Trevor Kingsbury, MA, Marilynn Wyatt, PT, MA

1Naval Medical Center San Diego, San Diego, CA, 2Improvement Path Systems, San Diego, CA

Test-Retest Reliability of Clinically Administered Outcome Measures for Use After Upper or Lower Extremity Trauma

Presentation Author: Dr. Jill Cancio

Jill M. Cancio, OTD, Alison Pruziner, DPT, Marilynn Wyatt, PT, MA, Jerry Slotkin, PhD, Callie Tyner, PhD, Aaron Boulton, PhD, Chris Dearth, PhD, Jason M. Wilken, PT, PhD, David Tulsky, PhD

1Brooke Army Medical Center, JBSA Fort Sam Houston, TX, 2Extremity Trauma & Amputation Center of Excellence, JBSA Fort Sam Houston, TX, 3Walter Reed National Military Medical Center, Bethesda, MD, 4Uniformed Service University of the Health Sciences, Bethesda, MD, 5Naval Medical Center San Diego, San Diego, CA, 6University of Iowa, Iowa City, IA

Crossover Prosthetic Foot May Reduce Braking Forces for Individuals with Bilateral Transtibial Amputations: A Case Series

Presentation Author: Ms. Andrea Ikeda

Andrea J. Ikeda, MS, CP, John R. Fergason, L/CPO

1Army Medical Center, JBSA Fort Sam Houston, TX, 2Extremity Trauma & Amputation Center of Excellence, JBSA Fort Sam Houston, TX

Understanding Low Back Pain in Traumatic Lower Limb Amputees: A Systematic Review

Presentation Author: Mr. Biranavan Sivapuratharasu

Biranavan Sivapuratharasu, MEng, Anthony M. J. Bull, PhD, Alison H. McGregor, PhD

Imperial College London, London, UK

Validation of Fiducial Marker Tracking for Applications in Prosthetic Alignment

Presentation Author: Dr. Michael Zabala

Michael Zabala, Raju Gupta, Mohamed Badawy, Leo Richards

1Auburn University, Auburn, AL, 2Integrated Solutions for Systems, Opelika, AL

Development of a Toolbox to Assess Functioning, Community Reintegration & Quality of Life After Major Extremity Trauma

Presentation Author: Dr. David Tulsky

David Tulsky, PhD, Jerry Slotkin, PhD, Callie Tyner, PhD, Linda Resnik, PT, PhD, Marilynn Wyatt, PT, MA, Alison Pruziner, DPT, Claire Kalpakjian, PhD, Hilary Bertisch, PhD, Pamela Kisala, MA, Chris Dearth, PhD, Jason Wilken, PT, PhD

1University of Delaware, Newark, DE, 2Providence VA Medical Center, Providence, RI, 3Naval Medical Center San Diego, San Diego, CA, 4Walter Reed National Military Medical Center, Bethesda, MD, 5Uniformed Services University of the Health Sciences, Bethesda, MD, 6Extremity Trauma & Amputation Center of Excellence, JBSA Fort Sam Houston, TX, 7University of Michigan, Ann Arbor, MI, 8Rusk Rehabilitation, New York, NY, 9University of Iowa, Iowa City, IA
MHSRS-18-1925  POSTER SESSION 2 - #050  
Patient Specific 3D Printed Titanium Cages for the Reconstruction of Massive Femoral Bone Loss: Preliminary Results in a Civilian Cohort  
Presentation Author: Dr. Kevin Tetsworth  
Kevin Tetsworth, MD, Vaida Giatt, PhD  
1Royal Brisbane & Women’s Hospital, Brisbane, Australia, 2University of Texas Health Science Center, San Antonio, TX

MHSRS-18-1934  POSTER SESSION 2 - #051  
Light-Activated Photosealing to Optimize Outcomes of Large Gap Peripheral Nerve Defects Repaired with Acellular Nerve Grafts  
Presentation Author: Dr. Robert Redmond  
Rachel L. Goldstein, DO, Marek Hansdorfer, MD, Jane Tsui, MD, Marco Visaggio, MD, Gem Runyan, MS, Mark A. Randolph, MAS, Amanda M. Meppelink, BS, William S. David, MD, Jonathan M. Winograd, MD, Robert W. Redmond, PhD  
Harvard Medical School, Massachusetts General Hospital, Boston, MA

MHSRS-18-1985  POSTER SESSION 2 - #052  
Photochemical Tissue Passivation of Arterio-Venous Grafts Prevents Long-Term Development of Intimal Hyperplasia  
Presentation Author: Dr. Robert Redmond  
Robert W. Redmond, PhD, Rachel L. Goldstein, DO, Michael C. McCormack, BS, MBA, Mark A. Randolph, MAS, William G Austen, Jr, MD  
Harvard Medical School, Massachusetts General Hospital, Boston, MA

MHSRS-18-1994  POSTER SESSION 2 - #053  
Induction of Tolerance to Vascularized Composite Allografts Across MHC Class I Barriers in Swine: A Clinically Relevant Protocol Using CTLA4-Ig & Anti-Il6R  
Presentation Author: Mr. Mark Randolph  
Alexandre G. Lellouch, MD, Gaelle Saviane, Msc, Bo Overschmidt, MD, Laura Burlage, MD, Mark Randolph, BS, Gilles Benichou, PhD, Curtis L. Cetrulo, Jr, MD, FACS, FAAP  
Massachusetts General Hospital, Boston, MA

MHSRS-18-1999  POSTER SESSION 2 - #054  
Cartilage Regeneration as a Function of Size, Depth & Mode of Creation of Sub-Mm Fractional Repair  
Presentation Author: Dr. Yingfang Fan  
Yingfang Fan, MD, PhD, Samuel D. Zarfos, BS, William A. Farinelli, BS, Gem Runyan, BS, Ying Wang, MD, Benjamin D. Leaker, Joshua Tam, PhD, R. Rox Anderson, MD, Mark A. Randolph, MAS, Robert W. Redmond, PhD  
Harvard Medical School, Massachusetts General Hospital, Boston, MA

MHSRS-18-2035  POSTER SESSION 2 - #055  
Selection Bias in Military Cohort Studies: An Analysis of Differences Between Participants & Non-Participants in a Study of Service Members with Severe Limb Trauma  
Presentation Author: Dr. Katherine Frey  
Katherine Frey, PhD, Stuart Mitchell, MD, Mary Jo Pugh, PhD, Megan Amuan, MPH, Benjamin Brooke, MD, PhD, Jessica Rivera, MD, Anthony Carlini, MS, Anthony Johnson, MD, Roman Hayda, MD, James Ficke, MD, Michael Bosse, MD, Lt Col Benjamin Kyle Potter, MD, Ellen MacKenzie, PhD  
1Johns Hopkins University (JHU) School of Public Health, Baltimore, MD, 2JHU School of Medicine, Baltimore, MD, 3Department of Veteran’s Affairs, Salt Lake City, UT, 4San Antonio Military Medical Center, US Army Institute for Surgical Research, San Antonio, TX, 5Rhode Island Hospital, Providence, RI, 6Carolinas Medical Center, Charlotte, NC, 7Walter Reed National Military Medical Center, Bethesda, MD
MHSRS-18-2062  POSTER SESSION 2 - #056
PROMIS PF & SMFA Crosswalk: Accuracy Varies by Domain
Presentation Author: Dr. Renan Castillo
Renan C. Castillo, PhD\(^1\), Anthony R. Carlini, MS\(^1\), Katherine P. Frey, PhD, RN\(^1\), Robert V. O'Toole, MD\(^2\), Kristin R. Archer, PhD\(^3\), William T. Obremiskey, MD, MPH\(^4\), Julie Agel, MA\(^4\), Conor P Klewenko, MD\(^4\), Saam A. Morshed, MD\(^5\), Michael J. Weaver, MD\(^6\), Thomas F. Higgins, MD\(^7\), Michael J. Bosse, MD\(^8\), Susan C. Collins\(^1\), Stephen T. Wegener, PhD\(^9\), Albert W. Wu, PhD\(^1\), Kitty S. Chan, PhD\(^1\), METRC
\(^1\)Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, \(^2\)University of Maryland Medical Center, Baltimore, MD, \(^3\)Vanderbilt University Medical Center, Nashville, TN, \(^4\)Harborview Medical Center, Seattle, WA, \(^5\)University of California at San Francisco, San Francisco, CA, \(^6\)Harvard Orthopaedic Trauma Service, Boston, MA, \(^7\)University of Utah, Salt Lake City, UT, \(^8\)Carolinas Medical Center, Charlotte, NC, \(^9\)Johns Hopkins University School of Medicine, Baltimore, MD

MHSRS-18-2071  POSTER SESSION 2 - #057
Regenerative Peripheral Nerve Interfaces for Both Treatment & Prophylactic Prevention of Postamputation Neuroma Pain
Presentation Author: Dr. Stephen Kemp
Stephen W.P. Kemp, Carrie A. Kubiak, Paul S. Cederna, Theodore A. Kung
The University of Michigan, Ann Arbor, MI

MHSRS-18-2075  POSTER SESSION 2 - #058
Implementation of the PROMIS Toolbox within an Orthopaedic Trauma Clinical Trials Consortium
Presentation Author: Dr. Renan Castillo
Anthony R. Carlini, MS\(^1\), Katherine P. Frey, PhD, RN\(^1\), Rachel Kirk, BS\(^1\), Susan C. Collins, MSc\(^1\), Robert V. O’Toole, MD\(^2\), Kristin R. Archer, PhD\(^3\), William T. Obremiskey, MD, MPH\(^4\), Julie Agel, MA\(^4\), Conor P Klewenko, MD\(^4\), Saam A. Morshed, MD\(^5\), Michael J. Weaver, MD\(^6\), Thomas F. Higgins, MD\(^7\), Michael J. Bosse, MD\(^8\), Kitty S. Chan, PhD\(^1\), Albert W. Wu, PhD\(^1\), Renan C. Castillo, PhD\(^1\), METRC
\(^1\)Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, \(^2\)University of Maryland Medical Center, Baltimore, MD, \(^3\)Vanderbilt University Medical Center, Nashville, TN, \(^4\)Harborview Medical Center, Seattle, WA, \(^5\)University of California at San Francisco, San Francisco, CA, \(^6\)Harvard Orthopaedic Trauma Service, Boston, MA, \(^7\)University of Utah, Salt Lake City, UT, \(^8\)Carolinas Medical Center, Charlotte, NC, \(^9\)Johns Hopkins University School of Medicine, Baltimore, MD

MHSRS-18-2168  POSTER SESSION 2 - #059
Limb Loss as Salvage: Reinventing Extremity Amputation for the 21st Century
Presentation Author: Dr. Matthew Carty
Tyler Clites, BS\(^1\), Shriya Srinivasan, BS\(^1\), Simon G. Talbot, MD\(^2\), Gregory A. Dumanian, MD\(^3\), Paul S. Cederna, MD\(^4\), Hugh M. Herr, PhD\(^1\)
\(^1\)MIT Center for Extreme Bionics, Cambridge, MA, \(^2\)Brigham & Women's Hospital, Boston, MA, \(^3\)Northwestern Memorial Hospital, Chicago, IL, \(^4\)University of Michigan, Ann Arbor, MI

REHABILITATION FOLLOWING SERVICE-RELATED NEUROMUSCULOSKELETAL INJURIES

MHSRS-18-0137  POSTER SESSION 2 - #060
Utilizing a Multidisciplinary Checklist to “Flip” a Patient from Prone to Supine Position for Ankle Arthroscopy
Presentation Author: CPT Alicia Unangst
Kevin Martin, DO\(^1\), Jeannie Huh, MD\(^2\), Jaime Chisholm, MBA\(^3\)
\(^1\)Fountain, CO, \(^2\)Grovetown, GA, \(^3\)Honolulu, HI

MHSRS-18-0138  POSTER SESSION 2 - #061
Foot & Ankle Patients Prefer a Hands-Free Single Crutch Compared to Standard Axillary Crutches
Presentation Author: CPT Alicia Unangst
Kevin Martin, DO\(^1\), Jeannie Huh, MD\(^2\), Anthony Mustovich\(^2\), Jaime Chisholm, MBA\(^3\)
\(^1\)Fountain, CO, \(^2\)Grovetown, GA, \(^3\)Honolulu, HI
MHSRS-18-0423 POSTER SESSION 2 - #062
Aspirin for DVT Prophylaxis Following ACL Reconstruction
Presentation Author: LCDR Sean McIntire
LCDR Sean McIntire, MD, Andrew Hurvitz, MD, Joseph R. Carney, MD, James R. Bailey, MD, Lucas S. McDonald, MD, Ethan Bernstein, MD, William J. Ferris, MS-II
Naval Medical Center San Diego, San Diego, CA

MHSRS-18-0638 POSTER SESSION 2 - #063
Advances in Neural Bypass Technology to Restore Movement in People with Paralysis
Presentation Author: Dr. Gaurav Sharma
Gaurav Sharma¹, Sam Colachis IV¹,², Marcie Bockbrader², David A. Friedenberg¹, Nicholas Annetta¹, Mingming Zhang¹, Nick Skomrock¹, Michael Schwemmer¹, W. Jerry Mysiw², Herbert S. Bresler¹
¹Battelle Memorial Institute, Columbus, OH, ²The Ohio State University, Columbus, OH

MHSRS-18-0857 POSTER SESSION 2 - #064
Prevention of Gliosis in Neural Injury by Inhibition of Pathoangiogenesis Allows Axonal Regeneration: Emphasis on Spinal Cord Injury
Presentation Author: Dr. Roger A Laine

MHSRS-18-1122 POSTER SESSION 2 - #065
Changes in Stair Climbing Biomechanics from Two to Eight Years After ACL Reconstruction are Associated with Patient-Reported Outcomes
Presentation Author: Dr. Arielle Fischer
Arielle G. Fischer¹,², Jennifer C. Erhart-Hledík¹, Constance R. Chu¹,², Jessica L. Asay¹,², Thomas P Andriacchi¹,²
¹Stanford University, Stanford, CA, ²Palo Alto Veterans Hospital, Palo Alto, CA

MHSRS-18-1166 POSTER SESSION 2 - #066
Mitochondrial Protein S-Nitrosation Protects Against Ischemia Reperfusion-Induced Denervation at Neuromuscular Junction in Skeletal Muscle
Presentation Author: Dr. Zhen Yan
Rebecca Wilson¹, Joshua Drake¹, Di Cui¹, Bevan Lewellen¹, Carleigh Fisher¹, Mei Zhang¹, David Kashatus¹, Lisa Palmer¹, Michael P Murphy², Zhen Yan¹
¹University of Virginia, Charlottesville, VA, ²University of Cambridge, Cambridge, UK

MHSRS-18-1232 POSTER SESSION 2 - #067
The Patient-Reported Outcomes Measurement Information System & the Single Assessment of Numeric Evaluation in Military Orthopaedic Practice
Presentation Author: Dr. Timothy Mauntel
Timothy Mauntel, PhD, ATC¹,², Lt Col Richard Robins, MD²,³, MAJ Jonathan Dickens, MD, MC, USA¹,², MOTION Collaborative
¹Walter Reed National Military Medical Center, Bethesda, MD, ²Uniformed Services University of the Health Sciences, Bethesda, MD, ³USAFA Academy, Colorado Springs, CO

MHSRS-18-1250 POSTER SESSION 2 - #068
Presentation Author: Dr. Zin Khaing
Zin Z. Khaing, Lindsay N. Cates, Jeffrey E. Hyde, Ryan Hammond, Neil Chakravarty, Matthew F. Bruce, Christoph P. Hofstetter
The University of Washington, Seattle, WA
**Poster Session II**

**MHSRS-18-1285**  
**POSTER SESSION 2 - #069**  
Matrix Metalloproteinases as Biomarkers for Osteoarthritis in a Cohort of 18-25 Year-Old, Physically Active ACL Rupture Patients  
Presentation Author: Dr. Kevin O’Donovan  
James Reilly, MS², Jesse Trump, MS², Meaghan McGovern¹, Caroline Horne¹, J. Kenneth Wickiser, PhD¹, Kenneth Cameron, PhD², Steven Svoboda, MD², Kevin J. O’Donovan, PhD¹  
¹US Military Academy, West Point, NY, ²Keller Army Community Hospital, West Point, NY

**MHSRS-18-1287**  
**POSTER SESSION - #070**  
“Win-Win” Rehabilitative Care Partnerships for SCI Veterans: VA SCI Centers and SCI Model Systems  
Presentation Author: Denise Fyffe

**MHSRS-18-1617**  
**POSTER SESSION 2 - #072**  
When Exception to Policy is Exceptional Policy: How Booking Physical Therapy Appointments Too Far in the Future May Adversely Impact Access to Care, Business Optimization & Readiness  
Presentation Author: MAJ Sarah Baker  
MAJ Sarah Baker, DPT, DSc², LTC Jason Silvernail, DPT, DSc³, LTC Scott Kushner, DPT³, Maj Lance Mabry, DPT³, MAJ Genevieve Gudorof, DPT⁴, Dr Steven Stoecker, DPT⁴, CDR Sean Easley, MPT¹, LTC Lisa Konitzer, DPT, DSc⁵  
¹Fort Belvoir Community Hospital, Fort Belvoir, VA, ²Walter Reed National Military Medical Center, Bethesda, MD, ³Malcolm Grow Medical Center, Andrews AFB, MD, ⁴Kimbrough Ambulatory Care Center, Fort Meade, MD, ⁵Quantico Naval Health Clinic, Quantico, VA, ⁶Dilorenzo Tricare Health Clinic, Pentagon, Arlington, VA

**MHSRS-18-1807**  
**POSTER SESSION 2 - #073**  
Promoting Recovery from Cervical SCI by Pairing Rehabilitation with Vagus Nerve Stimulation  
Presentation Author: Mr. Michael Darrow  
Michael Darrow, BS¹,², Patrick Ganzer, PhD¹, Andrea Ruiz, MS¹,², Luz Barron, BS¹,², Mian Bilal¹,², Mike Kilgard, PhD¹,², Robert Rennaker, PhD¹,², Seth Hays, PhD¹,²  
¹Texas Biomedical Device Center, Richardson, TX, ²University of Texas Dallas, Richardson, TX

**MHSRS-18-1847**  
**POSTER SESSION 2 - #075**  
Minimal Clinical Important Difference of the Quick Disabilities of the Arm Shoulder & Hand (QUICKDASH) for Post-Surgical Finger Phalanx Fractures  
Presentation Author: LTC Enrique Smith-Forbes  
LTC Enrique Smith-Forbes, PhD¹, Dana Howell, PhD², Jason Willoughby, MS³, Greg Pitts, DOT³, Tim Uhl, PhD⁴  
¹Brooke Army Medical Center, Joint Base San Antonio, TX, ²Eastern Kentucky University, Richmond, KY, ³Therapy Institute, Lexington, KY, ⁴University of Kentucky, Lexington, KY

**MHSRS-18-2023**  
**POSTER SESSION 2 - #076**  
Clinical Assessment of Functional Recovery After a Novel Tendon Transfer Surgery in a Chicken Model: A Comparison Between Pilot Studies  
Presentation Author: Mr. Anthony Le  
Anthony Le, BS¹, Jennifer J. Warnock, DVM, PhD, DACVS², James D. Sweeney, PhD¹, Ravi Balasubramanian, PhD¹  
²College of Engineering, Oregon State University, Corvallis, OR, ³Carlson College of Veterinary Medicine, Oregon State University, Corvallis, OR
REGENERATIVE REHABILITATION

MHSRS-18-0190  POSTER SESSION 2 - #077
Electrical Stimulation & Ionically Conductive Polymer Micro-Nanofiber Matrices for Peripheral Nerve Regeneration
Presentation Author: Mr. Ohan Manoukian
Ohan Manoukian1-2, Joshua Moskow1, Michael Arul1, Swetha Rudraiah3, Xiaojun Yu4, Sangamesh Kumbar1-2
1University of Connecticut (UC), Storrs, CT, 2UC, Farmington, CT, 3University of Saint Joseph, Hartford, CT, 4Stevens Institute of Technology, Hoboken, NJ

MHSRS-18-0192  POSTER SESSION 2 - #078
Novel Therapeutic Strategies to Enhance Tissue Regeneration & Mitigate Erectile Dysfunction in a Pelvic Neurovascular Trauma Model
Presentation Author: CPT Alexandria Hertz
CPT Alexandria M. Hertz, MD, Evalyn I. George, BS, Amanda B. Reed-Maldonado, MD, Timothy C. Brand MD, Shashikumar K. Salgar, PhD
Madigan Army Medical Center, Tacoma, WA

MHSRS-18-0210  POSTER SESSION 2 - #079
Osseointegrated Neural Interface (ONI): A Novel Model for Integrating Peripheral Nerves with Robotic Prosthetics
Presentation Author: Dr. Aaron Dingle
Aaron M. Dingle, Jared P. Ness, Joseph Novello, Weifeng Zeng, Jacqueline S. Isreal, Ruston J. Sanchez, Brett Nemke, Yan Lu, Mark D. Markel, Aaron Suminski, Justin C. Williams, Samuel O. Poore
University of Wisconsin, Madison, WI

MHSRS-18-1456  POSTER SESSION 2 - #080
Functional Reconstruction of Urogenital Tissue Defects Using VCA: A Novel Microsurgical Penis Transplant Model & Clinical & Histological Rejection Classification
Presentation Author: Dr. Gerald Brandacher
Samuel Fidder, MD1,2, Georg Furtmüller, MD1, Brian Simons, DVM, PhD1, Barbara Kern, MD1, Denver Lough, MD, PhD1, Byoung Chol Oh, DVM, PhD1, Maria Chicco, MBBS,1 Cory Brayton, DVM1, WP Andrew Lee, MD1, Damon Cooney, MD, PhD1, Richard Redett, MD1,2, Gerald Brandacher, MD1
1Johns Hopkins University School of Medicine, Baltimore, MD, 2Erasmus University Medical Center, Rotterdam, Netherlands

MHSRS-18-1600  POSTER SESSION 2 - #081
Minimally-Invasive Muscle Embedding (MIME) Generates Donor-Cell-Derived Muscle Fibers that Express Desmin & Dystrophin
Presentation Author: Dr. Joseph Roche
Joseph A. Roche, BPT, PhD, Morium Begam BS, Andrea K. Eaton BS, Collin J. Elkins BS, Jaclyn P. Johnson BS, Mattina M. Rosinski BS, Sujay S. Galen PT, PhD
Wayne State University, Detroit, MI

MHSRS-18-2012  POSTER SESSION 2 - #082
Autologous Bone Marrow Mononuclear Cell Administration & Regenerative Rehabilitation Treatment of Lower Extremity Trauma Complicated by Compartment Syndrome: First Clinical Study
Presentation Author: Dr. Kenton Gregory
Kenton Gregory, MD, Natalie Pettigrew, PT, DPT, Cynthia Gregory, PhD, Hua Xie, MD, PhD, Samantha Underwood, MS, Martin Schreiber, MD, Lisa Buckley, MPH

MHSRS-18-2030  POSTER SESSION 2 - #083
The Role of Biomechanical Signals in Skeletal Muscle Regeneration
Presentation Author: Mr. Hikaru Mamiya
Hikaru Mamiya, BS1, Wan-yeel Tang, PhD2, Aaron Barchowsky, PhD1, Fabrisia Ambrosio, PhD, MPT1
1University of Pittsburgh, Pittsburgh, PA, 2Johns Hopkins University, Baltimore, MD
EXTREMITY & CRANIOMAXILLOFACIAL REGENERATION

MHSRS-18-0155  POSTER SESSION 2 - #084
Development of Biological Approaches to Improve Functional Recovery After Compartment Syndrome Injury
Presentation Author: Shay Soker, PhD
Shay Soker, PhD, Tracy Criswell1, Johnny Huard2, James Irgang3
1Wake Forest Institute for Regenerative Medicine, Winston-Salem, NC, 2University of Texas Health Sciences Houston, Houston, TX, 3University of Pittsburgh, Pittsburgh, PA

MHSRS-18-0179  POSTER SESSION 2 - #085
Bone Repair Using Human Perivascular Stem Cell-Derived Extracellular Vesicles
Presentation Author: Dr. Aaron James
Jiajia Xu, PhD1, Carolyn Meyers, BS1, Lei Zhang, MD, PhD1, Leslie Chang, BS1, Catherine Ding, BA2, Greg Asatryan, DDS2, Kristen Broderick, MD1, Bruno Peault, PhD2, Aaron W. James, MD, PhD1,2
1Johns Hopkins University, Baltimore, MD, 2University of California, Los Angeles, Los Angeles, CA

MHSRS-18-0181  POSTER SESSION 2 - #086
Stem Cell & Novel Neurotrophic Factor Therapies to Improve Nerve/Muscle Regeneration & Functional Outcome in Limb Transplantation
Presentation Author: CPT Jessica Weiss
Jessica Weiss, MD1, Cody Phillips MD1, Jason Bingham, MD1, Edward Malin, MD1, Joseph Harding, PhD2, Vijay Gorantla, MD, PhD3, Shashikumar Salgar, PhD1
1Madigan Army Medical Center, Tacoma, WA, 2Washington State University, Pullman, WA, 3Wake Forest University, Winston-Salem, NC

MHSRS-18-0197  POSTER SESSION 2 - #087
Comparative Evaluation of Mesenchymal Stromal Cell Growth & Differentiation on a Novel Polycaprolactone Scaffold for Regenerating Large Tissue Trauma Defects
Presentation Author: Dr. Jessica Stukel
Jessica M. Stukel, PhD1, Ahmed Metwally1, Ann Marie Digeorge Foushee1, Lt Col Wen Lien, DMD2, Alexander Burdette, PhD1
1Naval Medical Research Unit-San Antonio, JBSA Fort Sam Houston, TX, 2Air Force 59th Medical Wing, JBSA Fort Sam Houston, TX

MHSRS-18-0299  POSTER SESSION 2 - #088
Brown/Beige Fat in Muscle Regeneration After IRI
Presentation Author: Dr. Xuhui Liu
Chantal Nguyen1,2, Zili Wang1,2, Lawrence Lee1, Mengyao Liu1,2, Shingo Kajimura2, Hubert Kim1,2, Brian Feeley1,2
1San Francisco Veterans Affairs Health Care System, San Francisco, CA, 2University of California, San Francisco, CA

MHSRS-18-0333  POSTER SESSION 2 - #089
VOLUMETRIC CHANGES IN EDENTULOUS ALVEOLAR RIDGE SITES UTILIZING GUIDED BONE REGENERATION & A Custom Titanium Ridge Augmentation Matrix (CTRAM)
Presentation Author: Dr. Peter Liacouras
Craig Hofferber, DDS1, J. Cameron Beck, DMD, MS1, Jeffrey Wessel, DDS, MS1, Thu Getka, DDS, MS1, Ivan Roman, DDS, MS1, Peter C. Liacouras, PhD2,3
1Naval Postgraduate Dental School, Bethesda, MD, 2Walter Reed National Military Medical Center, Bethesda, MD, 3Uniform Services University of the Health Sciences, Bethesda, MD

MHSRS-18-0424  POSTER SESSION 2 - #090
Fidgetin-Like 2: A Microtubule-Based Regulator of Peripheral Nerve Regeneration
Presentation Author: Dr. David Sharp
Lisa Baker1, Moses Tar1, MD, Kelvin Davies, PhD1, David Sharp, PhD1,2
1Albert Einstein College of Medicine, Bronx, NY, 2MicroCures, Inc, Bronx, NY
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MHSRS-18-0435  POSTER SESSION 2 - #091
BMP9 Stimulates Synovial Joint Regeneration at Non-Regenerative Amputation Wounds in Mice
Presentation Author: Dr. Ken Muneoka
Ken Muneoka, PhD, Ling Yu, PhD, Mingguan Yan, MS, Lindsay Dawson, PhD
Texas A&M University, College Station, TX

MHSRS-18-0542  POSTER SESSION 2 - #092
Therapeutic Targeting of Macrophage Directed Tgfb1 Reduces Pathologic Wound Healing After Musculoskeletal Extremity Trauma
Presentation Author: Mr. Michael Sorkin
Michael Sorkin, MD1, Charles Hwang, BS2, Serra Ucer Ozugurel, PhD1, John Li, MD1, David Cholok, MD1, Michael Chung, MD1, Shaielsh Agarwal, MD1, Shawn Loder, MD1, Chase Pagani, BS1, Kaetlin Vasquez, MS1, Shuli Li, PhD1, Sidra Kader, BS1, Prasanth Kotha, BS1, PhD, Aaron James, MD2, Yuji Mishina, PhD1, Benjamin Levi, MD1
1University of Michigan, Ann Arbor, MI, 2Johns Hopkins University, Baltimore, MD

MHSRS-18-0558  POSTER SESSION 2 - #093
Innovative Approach to Nerve Repair
Presentation Author: Dr. Sarena Horava
Sarena Horava, PhD, Yoojeong Kim, PhD, Anant Singh, PhD
Triton Systems, Inc, Chelmsford, MA

MHSRS-18-0621  POSTER SESSION 2 - #094
Delayed Healing Following Polytrauma is Preceded by an Irregular Immune Response
Presentation Author: Dr. Joshua Avila
Joshua J. Avila, Lauren H. Mangum, Brady J. Hurtgen, Alicia L. Lofgren, Joseph C. Wenke
US Army Institute of Surgical Research, JBSA Fort Sam Houston, TX

MHSRS-18-0631  POSTER SESSION 2 - #095
A Guided Tissue Engineering Approach for the Regeneration of Craniofacial Cartilage
Presentation Author: Dr. Christopher Dosier
Christopher R. Dosier, MBA, PhD1,2, David J. Cohen, MD2, Barbara D. Boyan, PhD1,2, Zvi Schwartz, DMD, PhD1,2, L. Franklin Bost, MBA, IDSA1,2
1SpherIngenics, Inc, Richmond, VA, 2Virginia Commonwealth University, Richmond, VA

MHSRS-18-0654  POSTER SESSION 2 - #096
Reconstruction of Craniofacial Structural Defects Through Patient-Specific Bioengineered 3-D Printed Custom Implants
Presentation Author: Dr. Gerhard Mundinger
Mandi Lopez, DVM, MS, PhD, DACVS
Louisiana State University, Baton Rouge, LA

MHSRS-18-0675  POSTER SESSION 2 - #097
SecRetome Profiles from Conditioned Media of Mesenchymal Stem Cells with Relevance to Therapy for Erectile Dysfunction
Presentation Author: Dr. John Jackson
Ethan Matz, MD, Xin Gu, MD, Lei Dou, MD, Cara Clouse, DVM, Stephen Walker, PhD, Ryan Terelcki, MD, Yuanyuan Zhang, MD, James Yoo, MD, PhD, Anthony Atala, MD, John Jackson, PhD
Wake Forest School of Medicine, Winston-Salem, NC
MHSRS-18-0711  POSTER SESSION 2 - #098
A Novel Strategy for Wound Healing & Tissue Regeneration Through Gene In-Activation & Re-Activation
Presentation Author: Dr. Benjamin Levi
Hsiao Hsin Sung Hsieh1, Shailesh Agarwal1, David J. Cholok1, Michael T. Chung1, Kavitha Ranganathan1, Joe Habbourche1, John Li1, Jonathan Butts1, Jonathan Reimer1, Arminder Kaura1, James Drake1, Christopher Breuler1, Caitlin R. Priest1, Joe Nguyen2, Robert C. Brownley2, Semahat Ucer4, Yashar S. Niknafs5, Shuli Li2, Maiko Inagaki1, Greg Scott, Paul H. Krebsbach2, Michael T. Longaker3, Kenneth Westover4, Nathanael Gray6, Jun-Ninomiya-Tsuji1, Thomas Davis6, Yuji Mishina4, Benjamin Levi1
1University of Michigan Hospital, Ann Arbor, MI, 2UCLA, Los Angeles, CA, 3Stanford University, Palo Alto, CA, 4University of Texas Southwestern, Dallas, TX, 5Dana Farber Research Center, Boston, MA, 6Uniformed Services University & the Walter Reed National Military Medical Center, Bethesda, MD

MHSRS-18-0717  POSTER SESSION 2 - #099
Ex Vivo Expanded Regulatory T Cells Combined with Short-Term Costimulation Blockade Prevent Rejection of Vascularized Composite Allografts
Presentation Author: Dr. Gerald Brandacher
Byoungchol Oh1, Georg J. Furtmüller1, Michael Grzelak1, Lihn Vuong2, Marcos Iglesias4, Damon S. Cooney1, W.P Andrew Lee3, Giorgio Raimondi4, Gerald Brandacher5
1Johns Hopkins University School of Medicine, Baltimore, MD, 2Washington University in St. Louis School of Medicine, St. Louis, MO

MHSRS-18-0722  POSTER SESSION 2 - #100
Post-Transplant High Dose Cyclophosphamide Treatment Induces Thymus-Independent Immune Tolerance of Vascularized Composite Allografts via Complete Depletion of the Alloreactive TCR Repertoire
Presentation Author: Dr. Gerald Brandacher
Georg J. Furtmüller, MD, Byoung Chol Oh, DVM, PhD, John-William Sidhom, Madeline L. Fryer, BA, Sudipto Ganguly, PhD, Veronika Malek, BS, Xianyu Zhou, MD, Jeffrey M. Dodd-o, MD, PhD, Damon S. Cooney, MD, PhD, Giorgio Raimondi, PhD, W.P Andrew Lee, MD, Leo Luznik, MD, Gerald Brandacher, MD
Johns Hopkins University School of Medicine, Baltimore, MD

MHSRS-18-0739  POSTER SESSION 2 - #101
Orthopaedic Implants are Susceptible to Bacterial Contamination for at Least One Week
Presentation Author: Dr. Stefanie Shiels
Stefanie M. Shiels, PhD, Joseph C. Wenke, PhD
US Army Institute of Surgical Research, Fort Sam Houston, TX

MHSRS-18-0780  POSTER SESSION 2 - #102
Human Placenta Stem Cells Promote Erectile Function Recovery in a Rodent Model of Pelvic Neurovascular Injury
Presentation Author: Dr. John Jackson
Xin Gu, MD3, Ethan Matz, MD2, Yuanyuan Zhang, MD, PhD1, Ting Long, PhD1, Lei Duo, MD1, Cara Clouse, DVM1, Tom, Lue, MD2, James Yoo, MD, PhD1, Anthony Atala, MD1, John Jackson, PhD1
1Wake Forest School of Medicine, Winston-Salem, NC, 2University of California San Francisco, San Francisco, CA

MHSRS-18-0784  POSTER SESSION 2 - #103
Long-Term Therapeutic Effect of Mesenchymal Stem Cells on Improvement of Erectile Function in a Rat Model
Presentation Author: Dr. John Jackson
Xin Gu, MD1, Hua Shi, MD1, Ethan Matz, MD2, Liren Zhong, MD1, Ting Long, PhD1, Cara Clouse, DVM1, Wei Li, MD1, Dong Chen, MD1, HyunChul Chung, MD1, Tom, Lue, MD2, James Yoo, MD, PhD1, Anthony Atala, MD1, John Jackson, PhD1, Yuanyuan Zhang, MD, PhD1
1Wake Forest School of Medicine, Winston-Salem, NC, 2University of California San Francisco, San Francisco, CA
MHSRS-18-0799  POSTER SESSION 2 - #104
Development of an Ex-Vivo Graft Preservation Model of Vascularized Composite Allograft (VCA) in Upper Extremities of Non-Human Primates
Presentation Author: Mr. Gerardo Rodriguez
Gerardo J. Rodriguez, BS¹, R. Madelaine Paredes, PhD¹, CDR Jacob J. Glaser, USN, MDFACS¹, CDR Forest R. Sheppard, USN, MDFACS², Col Michael R. Davis, USAF²
¹Naval Medical Research Unit San Antonio, JBSA-Fort Sam Houston, TX, ²59th Medical Wing, JBSA-Fort Sam Houston, TX

MHSRS-18-0815  POSTER SESSION 2 - #105
Clinical Translation of Engineered Penile Tissue for Battlefield Injury
Presentation Author: Dr. John Jackson
Sita Somara, PhD, Teresa Burnette, BS, Namrata D. Sangha, BS, Lindsey Creahan, BS, Tsghe Abraha, BS, Kathryn A. Krupp, BS, Tiana Stewart, BS, Torie Westendorf, MHA, Brad Damratsoski, BS, Lisa Hinshaw, MPH, Todd Meinecke, MBA, Darren Hickerson, MS, Cynthia Eileen Wilkins-Port, PhD, MBA, John Jackson, PhD, Ryan Terlecki, MD, James Yoo, MD, PhD, Anthony Atala, MD, Julie Allickson, PhD
Wake Forest School of Medicine, Winston-Salem, NC

MHSRS-18-0824  POSTER SESSION 2 - #106
Decellularized Xenogeneic Fetal Tissue Matrix Enhances Skeletal Muscle Regeneration Within a Latissimus Dorsi Defect
Presentation Author: Dr. Seok Hong
Mimi Wu Young, MD¹, Seok Hong, PhD¹, Hari Iyer², Robert Galiano, MD³
¹Northwestern University Feinberg School of Medicine, Chicago, IL, ²McGill University Faculty of Medicine, Montreal, QC, Canada

MHSRS-18-0836  POSTER SESSION 2 - #107
Biomimetic Design Strategy of 3D Bioprinted Bone Tissue Construct for Craniofacial Reconstruction
Presentation Author: Dr. Sang Jin Lee
Sang Jin Lee, PhD, Carlos Kengla, PhD, Ickhee Kim, MD, PhD, Hyeongjin Lee, PhD, James J. Yoo, MD, PhD, Anthony Atala, MD
Wake Forest School of Medicine, Winston-Salem, NC

MHSRS-18-0845  POSTER SESSION 2 - #108
Cellularized Electrospun Vascular Scaffolds for Small Diameter Blood Vessels: A Preclinical Large Animal Study
Presentation Author: Dr. Sang Jin Lee
Young Min Ju, PhD, Ickhee Kim, MD, PhD, Sang Il Min, MD, PhD, Lauren West-Livingston, BS, Anthony Atala, MD, James J. Yoo, MD, PhD, Sang Jin Lee, PhD
Wake Forest School of Medicine, Winston-Salem, NC

MHSRS-18-0850  POSTER SESSION 2 - #109
A 3D Bioprinting of Biomimetic Human Skeletal Muscle Tissue Constructs for Restoration of Muscle Function
Presentation Author: Dr. Sang Jin Lee
Ji Hyun Kim, PhD, In Kap Ko, PhD, James J. Yoo, MD, PhD, Anthony Atala, MD, Sang Jin Lee, PhD
Wake Forest School of Medicine, Winston-Salem, NC

MHSRS-18-0910  POSTER SESSION 2 - #110
Establishment of an In Vivo Turkey Model for the Study of Flexor Tendon Repair
Presentation Author: Dr. Chunfeng Zhao
Asssf Kadar, MD, Peter C. Amadio, MD, Steven L Moran, MD
Mayo Clinic, Rochester, MN
MHSRS-18-0924  POSTER SESSION 2 - #111
An Acellular Preparation of the Post-Delivery, Term Placenta Prevents Post Traumatic Osteoarthritis Following Multi-Ligament & Meniscus Injury in Rats
Presentation Author: Dr. Seth Tomblyn
Seth Tomblyn, PhD1, Xue Ma, MD, PhD2, Jeffrey Willey, PhD2, Scott Washburn, MD1, Raghunatha Yammani, PhD2, Thomas Smith, PhD2
1Plakous Therapeutics, Inc, Winston-Salem, NC, 2Wake Forest School of Medicine, Winston-Salem, NC

MHSRS-18-0930  POSTER SESSION 2 - #112
Manufacturing of Engineered Bladder Tissues for Soldiers with Battlefield Injury
Presentation Author: Dr. James Yoo
Chi Lo, PhD, Alex Baume, PhD, Dalia Alzebdeh, PhD, Nan Zhang, PhD, Namrata D. Sangha, BS, Sarah Albertson, BS, Jacob Scott, BS, Niranjan Ghimire, PhD, Ryan Szczech, BS, Tsghe Abraha, BS, Teresa Burnette, BS, Heather R. Herron, BS, Kassondra N. Hickey, BS, Kathryn A. Krupp, BS, Lindsey Creahan, BS, Tiana Stewart, BS, Torie Westendorf, MHA, Ryan Wolsky, BS, Brad Damratski, BS, Lisa Hinshaw, MPH, Ashley Walker, BS, Shannon Sdao, BS, Todd Meinecke, MBA, Darren Hickerson, MS, Rich Payne, PhD, John D. Jackson, PhD, Anthony Atala, MD, Julie Allickson, PhD, James J Yoo, MD, PhD
Wake Forest School of Medicine, Winston-Salem, NC

MHSRS-18-0975  POSTER SESSION 2 - #113
Extracellular Matrix Protection Factor-1 (ECPF-1): A Novel, Injectable Therapeutic Innovation for Post-Traumatic Osteoarthritis Care
Presentation Author: Dr. Marina Dangelo
Marina D’Angelo, PhD1,3, Andrea Buckley, MS1, Patricia Mattioli, MS1, LaBraya Milton, MS2, Lawrence Miller, MD2, Kathryn Behling, MD, PhD2. Jeffrey Boily, MBA3, Mindy George-Weinstein, PhD1, Abdulhafiz Selim, MD, PhD1,3
1Philadelphia College of Osteopathic Medicine, Philadelphia, PA, 2Cooper Bone & Joint Institute, Camden, NJ, 3ProteaPex Therapeutics, Philadelphia, PA

MHSRS-18-1072  POSTER SESSION 2 - #114
Ex-Vivo Normothermia Hyperbaric Perfusion for 24 Hours Mitigates Reperfusion Injury in Porcine Vascular Composite Allografts
Presentation Author: Dr. Nicholas Robbins
Nicholas L. Robbins, DO1,3, Matthew J. Wordsworth, MA, MRCS1, Michael R. Sippel, MD1,3, Bijaya K. Parida, PhD1, Jennifer M. Cox, BS1, Vijay S. Gorantla, MD, PhD1,4, George E. Wolf, MD2, Warren C. Breidenbach, MD2, Col Michael R Davis, MD1,2, Col Erik K. Weitzel, MD1,2
1RESTOR™ Program, 59th Medical Wing, JBSA Lackland AFB, TX, 2San Antonio Military Medical Center, JBSA Fort Sam Houston, TX, 3University of Texas Health Sciences Center at San Antonio, San Antonio, TX, 4Wake Forest Institute for Regenerative Medicine, Winston-Salem, NC

MHSRS-18-1080  POSTER SESSION 2 - #115
Prevention of Ischemia-Reperfusion Injury & Chronic Rejection in a Porcine Vascularized Composite Allografts
Presentation Author: Dr. Nicholas Robbins
Nicholas L. Robbins, DO1,3, Matthew J. Wordsworth, MA, MRCS1, Bijaya K. Parida, PhD1, Jennifer M. Cox, BS1, Zachary T. Thomas, BS1, Vijay S. Gorantla, MD, PhD1,4, Warren C. Breidenbach, MD1, Col Michael R Davis, MD1,2, Col Erik K. Weitzel, MD1,2
1RESTOR™ Program, 59th Medical Wing, JBSA Lackland AFB, TX, 2San Antonio Military Medical Center, JBSA Fort Sam Houston, TX, 3University of Texas Health Sciences Center at San Antonio, San Antonio, TX, 4Wake Forest Institute for Regenerative Medicine, Winston-Salem, NC
Next Generation Disease Modifying Viscosupplementation to Delay or Prevent Invasive Surgery in Combat-Related Post Traumatic Osteoarthritis (PTOA)

Presentation Author: Dr. Thomas Zarembinski
Koichi Masuda, MD; Thomas I. Zarembinski, PhD, MBA; Kenji Kato, MD, PhD; Junichi Yamada, MD; Takahiro Nakazawa; Francois Binette, PhD

1University of California San Diego, La Jolla, CA, 2BioTime Inc, Alameda, CA, Anges MG Inc, Osaka, Japan

Development of a Porcine Model for Extremity Injury

Presentation Author: Dr. Simon Talbot
Simon G. Talbot, MD; Sarah Kinsley, PA-C; Cara Reiter, DVM; Laura Riddle, DVM; Steven Fernicola, MD; Jody Richardson, RN; Amal Nadai; Christian Walker; William Culp, DVM; Jonathan Smith, MD; EJ Caterson, MD, PhD; Leon Nesti, MD, PhD

1Brigham & Women's Hospital, Boston, MA, 2Uniformed Services University of Health Sciences, Bethesda, MD

Fiber-Reinforced Collagen Scaffold for Craniomaxillofacial Regeneration

Presentation Author: Dr. Brendan Harley
Brendan Harley, ScD, Aleczandria Tiffany, BS, Marley Dewey, BS, Derek Milner, BS, Matthew Wheeler, PhD
University of Illinois at Urbana-Champaign, Urbana, IL

Bone Regenerative Capacity of 3D Printed Bioactive Ceramic Scaffolds at the Upper Extremity Coated with Bioactive Molecule: Dipyridamole

Presentation Author: Dr. Lukasz Witek
Lukasz Witek, Christopher D. Lopez, Nick Tovar, Bruce N. Cronstein, Eduardo D. Rodriguez, Paulo G. Coelho

1New York University College of Dentistry, New York, NY, 2Icahn School of Medicine at Mount Sinai, New York, NY, 3New York University School of Medicine, New York, NY, 4New York University Tandon School of Engineering, New York, NY

Adult Multipotent Progenitor Cells Derived from Traumatized Muscle Near a Low Energy Fracture

Presentation Author: LTC Leon Nesti
Stephen Fernicola, MD; Tyler Buckley, BS; Sonia Zicari, PhD; Alexandra K. Yasemzskii, MBA; LTC Leon Nesti, MD, PhD

1Uniformed Services University of the Health Sciences, Bethesda, MD, 2Walter Reed National Military Medical Center, Bethesda, MD

In Vitro & In Vivo Evaluation of a Glycosaminoglycan Mimetic for Cartilage Repair

Presentation Author: Dr. Treena Arinzeh
Roseline Menezes, MS; Gloria Portocarrerro Huang, PhD; George Collins, PhD; Louis Rizio, MD; Treena Livingston Arinzeh, PhD

1New Jersey Institute of Technology, Newark, NJ, 2Orthopaedics & Sports Medicine, Summit Medical Group, Livingston, NJ

Histone Deacetylase Inhibition is Protective in Murine Hind-Limb Ischemia Reperfusion Injury

Presentation Author: Dr. Seth Concors
Seth Concors, MD; David Aufhauser Jr, MD; Douglas Murken, MD; Zhonglin Wang, MD; Guanhui Ge; Tricia Bhatti, MD; Wayne W. Hancock, MBBS, PhD; Matthew H. Levine, MD, PhD

1University of Pennsylvania, Philadelphia, PA, 2Children's Hospital of Philadelphia, Philadelphia, PA
MHSRS-18-1392 POSTER SESSION 2 - #123
Development & In Vivo Implantation of Dual-ink 3D Printed Pericyte-Supported Pre-Vascularized Calcium Phosphate Bone Scaffolds for Maxillofacial Repair
Presentation Author: Mr. James Jones
James Jones, BA, Chelsea Twohig, DDS, Avathamasa Athirasala, MS, Anthony Tahayeri, BS, Greeshma Thrivikraman, PhD, Cristiane França Miranda, PhD, Silvia Amaya-Pajares, DDS, Hua Xie, MD, PhD, Luiz Bertassoni, PhD
Oregon Health & Science University, Portland, OR

MHSRS-18-1525 POSTER SESSION 2 - #124
Ex-Situ Normothermic Perfusion of Human Upper Extremity
Presentation Author: Dr. Vahe Fahradyan
Vahe Fahradyan, MD, Edoardo Dalla Pozza, MD, Maria Madajka, PhD, Kihyun Cho, MD, Nadeera Dawlagala, MD, Eliana Duraes, MD, Hirsh Shah, BS, Carlos Ordenana, MD, Sayf Al-deen Said, MD, Frank Papay, MD, Antonio Rampazzo, MD, PhD, Bahar Bassiri Gharb, MD, PhD
Cleveland Clinic Foundation, Cleveland, OH

MHSRS-18-1532 POSTER SESSION 2 - #125
Novel Biologic for Bone Regeneration in A Rat Spinal Fusion Model
Presentation Author: Dr. Fayez Safadi
Fayez Safadi1,2, Edwin Chou1, Kevin Budge1,2, Nazar Hussein1,2, Fatima Jaber1,2, Omar Azem1, Matt DeSanto1, Adnan Raslan1, Maleck Saleh1, Bradley Inkrott3, Jerry Robinson3, Scott McDermott3
1Northeast Ohio Medical University, Rootstown, OH, 2Kent State University, Kent, OH, 3SUMMA Health, Akron, OH

MHSRS-18-1538 POSTER SESSION 2 - #126
Poly (Butylene Succinate-Co-Glycolate) (PBSGL) Co-Polyester for Craniomaxillofacial Applications
Presentation Author: Dr. Alireza Abbaspourrad
Alireza Abbaspourrad, PhD, Seyedramin Pajoumshariati, PhD
Cornell University, Ithaca, NY

MHSRS-18-1540 POSTER SESSION 2 - #127
The Therapeutic Effect of GPNMB in a Traumatically-Induced Osteoarthritic Mouse Model
Presentation Author: Mr. Bryson Cook
Bryson P. Cook1, Asaad A. Al-Adlaan1,2, Matthew DeSanto1, Fayez F. Safadi1,2
1Northeast Ohio Medical University, Rootstown, OH, 2Kent State University, Kent, OH

MHSRS-18-1541 POSTER SESSION 2 - #128
A Novel Animal Model of Optic Nerve Transection with Preservation of the Retinal Viability
Presentation Author: Dr. Vahe Fahradyan
Vahe Fahradyan, MD, Eliana Duraes, MD, Cagri Cakmakoglu, MD, Maria Madajka, PhD, Grzegorz Kwiecien, MD, Brent Allen Bell, Antonio Rampazzo, MD, PhD, Neal Peachey, PhD, Alex Yuan, MD, PhD, Bahar Bassiri Gharb, MD, PhD, Francis Papay, MD
Cleveland Clinic Foundation, Cleveland, OH

MHSRS-18-1554 POSTER SESSION 2 - #129
In Vitro Mineralization & In Vivo Vascularization of a Modular Bone Regeneration Platform
Presentation Author: Dr. Howard Matthew
Kevin Miles, PhD, Charles Chung, PhD, Howard Matthew, PhD
Wayne State University, Detroit, MI

MHSRS-18-1556 POSTER SESSION 2 - #130
Novel Therapeutic Adjunct to Viable Nerve Graft Repair Dramatically Improves Outcomes in Segmental Ablation Peripheral Nerve Injuries
Presentation Author: Dr. David Jackson
David M. Jackson, PhD1, Cameron Ghergherhich1, Michelle Mikes1, George Bittner, PhD2
1Neuraptive Therapeutics, Winter Park, CO, 2University of Texas at Austin, Austin, TX
MHSRS-18-1580  POSTER SESSION 2 - #131
Severe Nerve Crush Injuries in Athymic Versus Euthymic Rats – Does Immune Status Matter?
Presentation Author: Dr. Curt Deister
Debbie Neubauer, MS1, Sarvan Dhulipala, MD2, Gary Lourie, MD3, Justina Chan4, Anne Engemann, PhD5, Erick Devinney, BS6, Curt Deister, PhD7
1AxoGen Corporation, Alachua, FL, 2Wellstar Atlanta Medical Center, Atlanta, GA, 3The Hand & Upper Extremity Center of Georgia, Atlanta, GA

MHSRS-18-1606  POSTER SESSION 2 - #132
Reversible Stenosis in a Juvenile Lamb Model of Tissue-Engineered Vascular Grafts
Presentation Author: Dr. Joseph Drews
Joseph Drews, MD1, Victoria Pepper, MD2, Cameron Best, BA3, Shinka Miyamoto, MD, PhD2, Ekone Onwuka, MD, MS4, Nakesha King, MD, MS5, James Reinhardt, PhD6, Jason Zakko, MD7, Eric Heuer, BA8, Aaron West, MS9, John Kelly, MD10, Hideki Miyachi, MD, PhD11, Toshihiro Shoji, BA12, Avione Lee, PhD13, Gabriel Mirhaidari, BS14, Yu-Chun Chang, BS15, Jacob Zbinden, BS16, Sharon Cheatham, PhD17, Tadahisa Sugiuira, MD, PhD18, Kan Hor, MD19, Darren Berman, MD20, Brian Boe, MD21, Jason Szafron, MS22, Jay Humphrey, PhD23, Toshiharu Shinok, MD, PhD24, John Cheatham, MD25, Christopher Breuer, MD26
1Nationwide Children’s Hospital, Columbus, OH, 2Yale University, New Haven, CT

MHSRS-18-1622  POSTER SESSION 2 - #133
In Vitro Evaluation of 3D Bioprinted Bone Constructs for Osseointegration
Presentation Author: Dr. Sang Jin Lee
Joshua Copus, BS1, Devaveena Dey, PhD2,4, Patrick Grimm, MD2-3, Jonathan Forsberg, MD3, Sang Jin Lee, PhD4, James J. Yoo, MD, PhD5, Thomas Davis, PhD2-4, Anthony Atala, MD5
1Wake Forest School of Medicine, Winston-Salem, NC, 2Naval Medical Research Center, Silver Spring, MD, 3Walter Reed National Military Medical Center, Bethesda, MD, 4Uniformed Services University of the Health Sciences, Bethesda, MD

MHSRS-18-1626  POSTER SESSION 2 - #134
Mg-1.2Zn-0.5Ca-0.5Mn Resorbable Skeletal Fixation Hardware Cytotoxicity
Presentation Author: Dr. David Dean
David Dean, PhD1, Hamdy Ibrahim, PhD2, Tim McManus1,4, Amir Dehghan2, Alan Luo, PhD3, Rigoberto Advincula, PhD4, Mohammad Elahinia, PhD2
1The Ohio State University, Columbus, OH, 2University of Toledo, Toledo, OH, 3Case Western Reserve University, Cleveland, OH

MHSRS-18-1675  POSTER SESSION 2 - #135
Use of a Novel 3D Scaffold Technology as a Tissue Regeneration Device for Co-Therapy in Simultaneous Prevention of Osteomyelitis & Promotion of Bone Regeneration Across a Segmental Bone Defect Following Traumatic Injury
Presentation Author: Dr. Mark Smeltzer
Mark S. Smeltzer, PhD, Alexandru S. Biris, PhD, David E. Anderson, DVM, MS, DACVS, Daniel G. Meeker, PhD, Karen E. Beenken, PhD, Karrer M. Alghazali, MS, Bailey Barnes, BS, Shawn Bourdo, PhD, Stuart Berryhill, BS, Erin Mannen, PhD, Steven M. Cherney, MD

MHSRS-18-1687  POSTER SESSION 2 - #136
Modular Cytokine Ligands (Functional Peptides) Enhance Bone Formation in 3D-printed, Resorbable, Poly (Propylene Fumarate) (PPF) Tissue Engineered Scaffolds
Presentation Author: Dr. David Dean
David Dean, PhD1, Yanyi Xu, PhD2, Derek Luong2, Jason M. Walker, PhD3, & Matthew L. Becker, PhD2
1The Ohio State University, Columbus, OH, 2The University of Akron, Akron, OH, 3Youngstown State University, Youngstown, OH

MHSRS-18-1688  POSTER SESSION 2 - #137
Presentation Author: Dr. Lesley Wong
Lesley Wong, MD, Mingjun Zhao, BS, Chong Huang, PhD, Nneamaka Aghochukwu, MD, Siavash Mazdeyasna, MS, Ahmed Bahrani, MS, Li Chen, PhD, Jeffrey Radabaugh, MD, Rony Aouad, MD, Guoqiang Yu, PhD
University of Kentucky, Lexington, KY
MHSRS-18-1718  POSTER SESSION 2 - #138
Human Study Aimed at Choosing Dosing Frequency & Reconfirming Lack of Immune Reactivity of Placenta-Derived Adherent Stromal Cells (PLX-PAD) in Critical Limb Ischemia
Presentation Author: Dr. Arik Eisenkraft
Arik Eisenkraft Pluristem Ltd. & The Institute for Research in Military Medicine, The Hebrew University Faculty of Medicine, Jerusalem, Israel

MHSRS-18-1729  POSTER SESSION 2 - #139
Tissue Engineered Muscle Repair (TEMR) Construct Restores Muscle Function in a Rat Latissimus Dorsi Volumetric Muscle Loss Injury Model: In Vivo & In Silico Approaches
Presentation Author: Dr. Juliana Amaral Passipieri
J. A. Passipieri, PhD1, Xiao Hu, PhD1, Ellen Mintz, MSc1, Jack Dienes1, H. B. Baker, PhD2, Hunter Wallace1, Silvia S. Blemker, PhD1, George J. Christ, PhD1
1University of Virginia, Charlottesville, VA, 2University of Maryland, College Park, MD

MHSRS-18-1838  POSTER SESSION 2 - #140
Embryo Complementation & Gene Editing Technologies as a Platform for Exogenic Organ Production & Xenotransplantation
Presentation Author: Dr. Daniel Garry
Daniel J. Garry, MD, PhD, Satyabrata Das, PhD, Geunho Maeng, DVM, PhD, Wuming Gong, PhD, Cyprian V. Weaver, PhD, Mary G. Garry, PhD
University of Minnesota, Minneapolis, MN

MHSRS-18-1878  POSTER SESSION 2 - #141
Computational Model of Muscle Injury Validated with In Situ Experiments: Implications for Development of Personalized Regenerative Therapeutics for Volumetric Muscle Loss (VML) Injuries
Presentation Author: Mrs. Amanda Westman
Amanda M. Westman, Sarah Dyer, J. David Remer, Xiao Hu, Silvia S. Blemker, George J. Christ
University of Virginia, Charlottesville, VA

MHSRS-18-1909  POSTER SESSION 2 - #142
Craniomaxillofacial Skeletal Regeneration Using 3D Printed Bio-ceramic Scaffolds & Adenosine Receptor Activation
Presentation Author: Mr. Christopher D. Lopez
Christopher D. Lopez, BA1,2, Roberto L. Flores, MD1, Jonathan M. Bekisz, MD1, Lukasz Witek, MSci, PhD2, J. Rodrigo Diaz-Siso, MD1, Nick Tovar, PhD2, Bruce N. Cronstein, MD2, Paulo G. Coelho, DDS, PhD1,2
1NYU Langone Health, New York City, NY, 2NYU College of Dentistry, New York City, NY

OPEN  POSTER SESSION 2 - #143

MHSRS-18-1954  POSTER SESSION 2 - #144
Tissue Engineered Axon-Based “Living Scaffolds” Preserve Regenerative Pathway & Capacity for Muscle Reinnervation Following Peripheral Nerve Injury
Presentation Author: Mr. Kevin Browne
Kevin D. Browne1,2, Kritika S. Katjvar1,3, Justin C. Burrell1,2, Joseph C. Maggiore1,2, Franco A. Laimo1,2, Zarina S. Ali3, Foteini Mourkioti2, D. Kacy Cullen1,2
1Corporal Michael Crescenz Veterans Affairs Medical Center, Philadelphia, PA, 2University of Pennsylvania, Philadelphia, PA, 3Drexel University, Philadelphia, PA

MHSRS-18-1956  POSTER SESSION 2 - #145
Nanoscale Approaches to Improve Tissue Repair & Rescue via Non-Viral Reprogramming of Myeloid Cells
Presentation Author: Ms. Silvia Duarte-Sanmiguel
Silvia Duarte-Sanmiguel, Natalia Higuita-Castro, Lilibeth Ortega-Pineda, Daniel Gallego-Perez
The Ohio State University, Columbus, OH
MHSRS-18-1969  POSTER SESSION 2 - #146
Functional Restoration Following High Level Gunshot Injuries of Both Median & Ulnar Nerves
Presentation Author: Dr. Fatih Zor
Fatih Zor, MD1,2, Yalcin Kulahci, MD2,3, Huseyin Karagoz, MD2, Ismail Safaz, MD2, Umit H. Ulas, MD2, Vijay Gorantla, MD, PhD1
1Wake Forest Institute for Regenerative Medicine, Winston-Salem, NC, 2Gulhane Military Medical Academy, Ankara, Turkey, 3University of Pittsburgh, Pittsburgh, PA

MHSRS-18-1871  POSTER SESSION 2 - #147
Evaluation of Immune Responses Following Whole Eye Transplantation
Presentation Author: Dr. Fatih Zor
Fatih Zor, MD1,2, Murat Polat, MD2, Yalcin Kulahci, MD2,3, Bulent Kurt, MD2, Bilal Battal, MD2, Vijay Gorantla, MD, PhD1
1Wake Forest Institute for Regenerative Medicine, Winston-Salem, NC, 2Gulhane Military Medical Academy, Ankara, Turkey, 3University of Pittsburgh, Pittsburgh, PA

MHSRS-18-1973  POSTER SESSION 2 - #148
Composite Tissue Xenopreservation
Presentation Author: Dr. Fatih Zor
Fatih Zor, MD1,2, Rezarta Kapaj, MD2, Yalcin Kulahci, MD2,3, Yildirim Karslioglu, MD2, Vijay Gorantla, MD, PhD1
1Wake Forest Institute for Regenerative Medicine, Winston-Salem, NC, 2Gulhane Military Medical Academy, Ankara, Turkey, 3University of Pittsburgh, Pittsburgh, PA

MHSRS-18-2032  POSTER SESSION 2 - #149
Vascularized Composite Allotransplantation Collaborative Initiative (VCAci) Biorepository: Powering Decision-Making in Allotransplantation for the Wounded Warrior
Presentation Author: Mrs. Mary-Beth Joshi
Mary-Beth Joshi, MPH, Mingqing Song, PhD, Frank Leopardi, Debbi Conlon, Robyn Osborne, Jennifer Cheeseman, MS, Linda Cendales, MD
Duke University, Durham, NC

MHSRS-18-2033  POSTER SESSION 2 - #150
Belatacept & Rapamycin with Short-term Use of Tacrolimus Delay Allograft Rejection in a Novel, Miniature Swine Vascular Composite Allotransplantation Model
Presentation Author: Mr. Tarek Elgendy
Tarek Elgendy, MD, Deokyeol Kim, MD, Mattias Waldner, MD, Alan Zahorchak, MS, Mohamed Ezzelarab, MD, Wensheng Zhang, MD PhD, Marta Minervini, MD, Kia Washington, MD, Mario Solari, MD, Angus W. Thomson, PhD

MHSRS-18-2050  POSTER SESSION 2 - #151
In Vivo Non-Viral Delivery of Gene and Cell Therapies to Mangled Nerves
Presentation Author: Dr. Natalia Higuita-Castro
Natalia Higuita-Castro, PhD, Christopher Wier, BS, Jordan Moore, BS, Alec Sunyecz, BS, Ray Cho, MD, Matthew Reilly, PhD, Chandan K. Sen, PhD, Stephen Kolb, MD, Daniel Gallego-Perez, PhD

MHSRS-18-2064  POSTER SESSION 2 - #152
Manipulating the Ultrastructural Characteristics of Fracture Hematoma Using a Snake Venom Derived Enzyme: A Novel Therapeutic Option for the Management of Segmental Bone Defects
Presentation Author: Dr. Vaida Glatt
Vaida Glatt, PhD1, Anna Woloszyk, PhD1, Kelvin Tuong, PhD2, Kevin Tetsworth, MD3
1University of Texas Health Science Center San Antonio, San Antonio, TX, 2The University of Queensland Diamantina Institute, Brisbane, Australia, 3Royal Brisbane & Women’s Hospital, Brisbane, Australia
MHSRS-18-2066  POSTER SESSION 2 - #153
Development of a Translatable Large Animal Model in Order to Understand the Etiology of Heterotopic Ossification
Presentation Author: Dr. Dustin Williams
Dustin Williams, PhD1,2, Richard Epperson,1,2, David Rothberg, MD1,2, Raymond Olsen, MVSc1,2, Brooke Kawaguchi, BS1,2, Nicholas Taylor, BS1,2, Jeffery Rogers, MHA1,2, John Maxwell, BS1,2, Mary Dickerson, DVM1, Benjamin K. Potter, MD3, John Shero, MHA4, Paul Pasquina, MD5,6, Brad Isaacson, PhD, MBA, MSF5-7
1University of Utah, Salt Lake City, UT, 2George E. Wahlen Department of Veterans Affairs, Salt Lake City, UT, 3Walter Reed Department of Surgery, Bethesda, MD, 4Extremity Trauma Center of Excellence, Joint Base San Antonio Fort Sam Houston, TX, 5Uniformed Services University, Bethesda, MD, 6Walter Reed National Military Medical Center, Bethesda, MD, 7The Geneva Foundation, Tacoma, WA

MHSRS-18-2093  POSTER SESSION 2 - #154
Perfluorocarbon Oxygen Therapeutics as Additives to Preservation Solutions for Storage & Transport of Extended Criteria Donor Organs
Presentation Author: Dr. Travis Parsons
Stephen Tapia-Ruano, Jiepei Zhu, MD, PhD, Narendra Battula, MD, Chris Giordano, MD, Kenneth Andreoni, MD, Bruce Spiess, MD, FAHA, Travis Parsons, PhD
University of Florida, Gainesville, FL

SKIN REGENERATION & SCAR MITIGATION

MHSRS-18-0053  POSTER SESSION 2 - #155
Amniotic Membrane Product for Enhanced Wound Healing
Presentation Author: Dr. Sean Murphy
Sean V. Murphy, Aleksander Skardal, Uma Gandhi, John Jackson, Graca Almeida-Porada, Julie Allikson, Shay Soker
Wake Forest School of Medicine, Winston-Salem, NC

MHSRS-18-0118  POSTER SESSION 2 - #156
Autologous Full-Thickness Micro Skin Column Grafting for Wound Repair Without Donor Site Scarring
Presentation Author: Dr. Joshua Tam
Joshua Tam, PhD1,2, Ying Wang, MD, PhD1,2, William A. Farinelli, BA1, R. Rox Anderson, MD1,2
1Massachusetts General Hospital, Boston, MA, 2Harvard Medical School, Boston, MA

MHSRS-18-0135  POSTER SESSION 2 - #157
PPAR Agonist & ATRA Induce Epithelial Differentiation of Subcutaneous Adipose-Derived Stem Cells from Debrided Burn Skin in the Absence of Growth Factor Stimulation
Presentation Author: Ms. Nicole Wrice
Nicole L. Wrice, MS, Shanmugasundaram Natesan, PhD, Robert J. Christy, PhD

MHSRS-18-0173  POSTER SESSION 2 - #158
Case Report: Successful Treatment of Glanular Ulceration After Dextran Injection for a Penile Cosmetic Procedure
Presentation Author: 2LT Thomas O’Leary
2LT Thomas O’Leary, MA1, MAJ Timothy Tausch, MD2, CDR James Masterson, MD1,2
1Uniformed Services University of the Health Sciences, Bethesda, MD, 2Walter Reed National Military Medical Center, Bethesda, Maryland

MHSRS-18-0233  POSTER SESSION 2 - #159
Acellular Fish Skin Grafts for the Management of Split Thickness Donor Sites & Partial Thickness Burns: A Case Series
Presentation Author: Lt Col Steven Jeffery
MHSRS-18-0241  POSTER SESSION 2 - #160
A Strategy to Identify Putative Prognostic Biomarkers of Pathological Scarring in Traumatic Skin Wounds
Presentation Author: Dr. Sridevi Nagaraja
Sridevi Nagaraja, PhD1, Lin Chen, MD, PhD2, Luisa A. DiPietro, DDS, PhD2, Jaques Reifman, PhD3, Alexander Y. Mitrophanov, PhD1
1US Army Medical Research & Materiel Command, Fort Detrick, MD, 2College of Dentistry, University of Illinois at Chicago, Chicago, IL

MHSRS-18-0330  POSTER SESSION 2 - #161
Myeloid-Derived Suppressor Cells Infiltrate the Wound Site After Burn Injury
Presentation Author: Dr. Martin Schwacha
Martin G. Schwacha, PhD1, Shannon R. Scroggins, MS1, Robbie K. Montgomery, MS2, Susannah E. Nicholson, MD1, Andrew P. Cap, MD, PhD1,2
1The University of Texas Health Science Center at San Antonio, TX, 2US Army Institute of Surgical Research, JBSA Fort Sam Houston, TX

MHSRS-18-0418  POSTER SESSION 2 - #162
Fidgetin-Like 2: A Microtubule-Based Regulator of Wound Healing
Presentation Author: Dr. Brian O’Rourke
Brian O’Rourke, PhD1, Jayakumar Rajadas2, David Sharp1,3
1MicroCures, Inc Bronx, NY, 2Stanford University, Palo Alto, CA, 3Albert Einstein College of Medicine, Bronx, NY

MHSRS-18-0472  POSTER SESSION 2 - #163
Topical Anti-Inflammatories Improve Skin Graft Contraction After STSG in a Porcine Excisional Wound Model
Presentation Author: CPT David Tassin
David H. Tassin, MD, Christopher Corkins, MD, Anders Carlsson, PhD, Rodney K. Chan, MD
US Army Institute of Surgical Research, San Antonio, TX

MHSRS-18-0474  POSTER SESSION 2 - #164
Therapeutic Composition of Natural Compounds to Accelerate Wound Healing
Presentation Author: Dr. Ehsan Jabbarzadeh

MHSRS-18-0539  POSTER SESSION 2 - #165
Porcine Wound Healing Model for Evaluation of Advanced Novel Wound Coverage with Fish Skin Graft
Presentation Author: Dr. Francoise Arnaud
Francoise Arnaud1,2, Michelle Lipinski1, Jessica Roman1, Josh Stanbro1, LT Chase Watters1, LT Jae Dugan1, Hilmar Kjartansson3, Skull Magnusson3, LCDR Mark Simons1
1Naval Medical Research Center, Silver Spring, MD, 2USUHS, Bethesda, MD, 3Kerecis LLC, Reykjavik, Iceland

MHSRS-18-0627  POSTER SESSION 2 - #166
Model to Prevent Contraction in Third Degree Burns Using Skin Graft & Incorporated Stem Cells
Presentation Author: Dr. Luis Rodriguez-Menocal
L. Rodriguez-Menocal1, W. Guzman1, RJ Christy2, S. Becerra2, J. Gil1, A. Candaleno1, S. Natesan2, J. Valdes1, M. Solis1, A. Higa1, CI Schulman1, SC Davis1, EV Badiavas1
1University of Miami, Miami, FL, 2US Army Institute of Surgical Research, Fort Sam Houston, TX

MHSRS-18-0696  POSTER SESSION 2 - #167
“Burn-in-a-Dish”: Assessing Thermal Injuries in an Organotypic Skin Model
Presentation Author: Dr. Nicholas Clay
Nicholas Edwin Clay, PhD1, Andrew Kowalczewski, BS1, John L. Clifford, PhD2, Robert J. Christy, PhD1
1US Army Institute of Surgical Research, Fort Sam Houston, TX, 2US Army Center for Environmental Health Research, Fort Detrick, MD
Poster Session II

**MHSRS-18-0732**  **POSTER SESSION 2 - #168**

**Topical Application of Statins Reduced Scarring**

Presentation Author: Dr. Seok Hong

Ping Xie, MD, PhD, Shengxian Jia, MD, PhD, Robert Galiano, MD, Seok Jong Hong, PhD, Thomas Mustoe, MD

Feinberg School of Medicine, Northwestern University, Chicago, IL

**MHSRS-18-0776**  **POSTER SESSION 2 - #169**

**A Preliminary Evaluation of a Wearable Long-Duration Ultrasound Device/Dressing on the Healing of Full Thickness Wounds**

Presentation Author: Mr. Joel Gil

Joel Gil, BS1, Jie Li, PhD1, Jose Valdes, AS1, Michael Solis, MBA1, Alexander Higa, BS2, George Lewis, PhD2, Stephen Davis, BS3

1University of Miami Miller School of Medicine, Miami, FL, 2ZetrOZ Systems LLC, Trumbull, CT

**MHSRS-18-0852**  **POSTER SESSION 2 - #170**

**Suppression of Collagen Synthesis in Keloid Fibroblasts by Targeted Inhibition of HIF-1α & TGF-α Pathways**

Presentation Author: Dr. Yuanyuan Kang

Yuanyuan Kang, PhD, Anpulcheli Rajadurai, Hensin Tsao, MD, PhD

Massachusetts General Hospital, Harvard Medical School, Boston, MA

**MHSRS-18-0977**  **POSTER SESSION 2 - #171**

**Salinomycin, a Small Molecule Anti-Scarring Agent, Inhibits Scar-Forming Myofibroblasts In Vitro & Attenuates Capsule Formation in an Animal Model of Capsular Contraction**

Presentation Author: Dr. Thomas Thatcher


University of Rochester, Rochester NY

**MHSRS-18-0988**  **POSTER SESSION 2 - #172**

**Design, Preparation & Activity of Intelligent Cellulose-Based Protease Sensor & Modulating/Fibroblast Promoting (PROTOS-FIBRO) Dressings**

Presentation Author: Dr. Judson Edwards

Judson Vincent Edwards1, Krystal R. Fontenot1, Nicolette Prevost1, Brian D. Condon1, Dorne Yager2, Joseph Dacorta3

1Southern Regional Research Center, New Orleans, LA, 2Medical College of Virginia, Richmond, VA, 3H&H Medical, Williamsburg, VA

**MHSRS-18-1034**  **POSTER SESSION 2 - #173**

**Engineered Tissue Scaffold Made from Patent Pending Microsphere Architecture for Rapid Healing of Full Thickness Skin Wounds**

Presentation Author: Dr. Yulia Sapir-Lekhovitser

Yulia Sapir-Lekhovitser, PhD3, Adam Weisel, MS1, Jason Spector, MD, FACS2

1FesariusTherapeutics Inc, Brooklyn, NY, 2Weill Cornell Medicine, New York City, NY

**MHSRS-18-1117**  **POSTER SESSION 2 - #174**

**Keratin-Impregnated Dermal Matrix for Improved Wound Healing in a Porcine Burn Model**

Presentation Author: Dr. Ryan Clohessey

Ryan M. Clohessey1,2, Alexis Rejeski Gabard2, Luke Burnett2, Robert J. Christy1

1US Army Institute of Surgical Research, Fort Sam Houston, TX, 2KeraNetics, LLC, Winston-Salem, NC

**MHSRS-18-1171**  **POSTER SESSION 2 - #175**

**Route, Dose, & Timing of Tropoelastin Administration Affect Elastic Deposition in Burn Scar**

Presentation Author: Dr. Hua Xie

Hua Xie, MD, PhD1, Lisa Lucchesi, MS1, Nathan Kemalyan, MD2, Elena Ladich, MD1, Scot Estep, DVM4, Kenton Gregory, MD1

1Oregon Health & Science University, Portland, OR, 2Legacy Health System, Portland, OR, 3CVPath Institute, Gaithersburg, MD, 4Texas Veterinary Pathology Associates, Spring Branch, TX
**MHSRS-18-1215**  
**POSTER SESSION 2 - #176**  
The Effects of Covering Therapy with Functional Nanosheets Loaded with Antibiotics or Growth Factors on the Promotion of Wound Healing Against Infectious Skin Lesions  
Presentation Author: Dr. Manabu Kinoshita  
Manabu Kinoshita, MD, PhD², Toshinori Fujie, PhD², Shimpo Aoki, MD, PhD², Shinji Takeoka, PhD², Nariyoshi Shinomiya, MD, PhD², Shuji Seki, MD, PhD²  
¹National Defense Medical College, Tokorozawa, Japan, ²Waseda University, Tokyo, Japan

**MHSRS-18-1286**  
**POSTER SESSION 2 - #177**  
Comparison of Omega-3 Rich Fish Skin Dermis & Fetal Bovine Dermis on Deep Partial Thickness Burns  
Presentation Author: Dr. Randy Stone II  
Randolph Stone II¹, David Larson¹, John T. Wall¹, Kyle Florell¹, Hannah Dillon¹, Skuli Magnusson², Hilmar Kjartansson², Shanmugasundaram Natesan¹, Robert J. Christy²  
¹US Army Institute of Surgical Research, JBSA Fort Sam Houston, TX, ²Kerecis, Reykjavik, Iceland

**MHSRS-18-1292**  
**POSTER SESSION 2 - #178**  
Omega-3 Rich Fish Skin Grafts Reduce Donor Skin Requirements for Full Thickness Burns  
Presentation Author: Dr. Randy Stone II  
Randolph Stone II¹, David Larson¹, John T. Wall¹, Kyle Florell¹, Hannah Dillon¹, Skuli Magnusson², Hilmar Kjartansson², Shanmugasundaram Natesan¹, Robert J. Christy²  
¹US Army Institute of Surgical Research, JBSA Fort Sam Houston, TX, ²Kerecis, Reykjavik, Iceland

**MHSRS-18-1421**  
**POSTER SESSION 2 - #179**  
Autofluorescence Imaging for Visualization of Wound Closure of Partial & Full-Thickness Wounds  
Presentation Author: Dr. Ying Wang  
Ying Wang, MD, PhD¹,², Sepideh Afshar, PhD¹,², William A. Farinelli¹,², R. Rox Anderson MD¹,², Walfre Franco, PhD¹,²  
¹Massachusetts General Hospital, Boston, MA, ²Harvard Medical School, Boston, MA

**MHSRS-18-1566**  
**POSTER SESSION 2 - #180**  
Integrating Plant Structures & Systems for Wound Healing: Decellularized Spinach Leaves as a Multifunctional Platform for Tissue Engineered Skin  
Presentation Author: Dr. George Pins  
Elizabeth J. English, BS¹, Joshua R. Gershak, MS¹, David M. Dolivo, BS¹, Jeremy Goverman, MD², Glenn R. Gaudette, PhD³, Tanja Dominko, PhD¹, George pins, PhD³  
¹Worcester Polytechnic Institute, Worcester, MA, ²Massachusetts General Hospital, Harvard Medical School, Boston, MA

**MHSRS-18-1578**  
**POSTER SESSION 2 - #181**  
Effects of Topically Applied Morphine-Loaded Keratin Hydrogels on Wound Healing in a Porcine Burn Model  
Presentation Author: SGT Robert Sadowski  
Robert A. Sadowski¹, Christine J. Kowalczewski¹, Nicholas E. Clay¹, Nicole L. Wrice, Carissa A. Villanueva¹, Jamar J. Daniels¹, Bopaiah P. Cheppudira¹, Sean Christy¹, John L. Clifford¹, Robert J. Christy²  
¹USAISR, San Antonio, TX, ²USACEHR, Fort Detrick, MD

**MHSRS-18-1596**  
**POSTER SESSION 2 - #182**  
Adipose-Derived Stromal Vascular Fraction Cells as a Pressure Ulcer Therapy  
Presentation Author: Dr. Jeffrey Gimble  
Jeffrey Gimble, MD, PhD¹,², Xiying Wu, MD³, Trivia Frazier, PhD¹, Andrea Alarcon³, Joanna Bukowska, PhD³, Paul Kosnik, PhD³, Adam Katz, MD³, Babak Mehrara³, Bruce Bunnell, PhD³, Barbara Gawronska-Kozak, PhD³  
¹LaCell LLC, New Orleans, LA, ²Tulane University, New Orleans, LA, ³Polish Academy of Sciences, Olsztyn, Poland, ⁴Tissue Genesis, Honolulu, HI, ⁵University of Florida, Gainesville, FL, ⁶Memorial Sloan Kettering Cancer Center, New York, NY
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<th>Poster Session II</th>
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<tr>
<td><strong>MHSRS-18-1629</strong></td>
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<tr>
<td><strong>Towards Determination of Healing Potential in Partial Thickness Burns</strong></td>
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<tr>
<td>Presentation Author: Dr. Martin Villiger</td>
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<tr>
<td>Martin Villiger, PhD¹, Jian Ren, PhD¹, Brett E. Bouma, PhD¹,²</td>
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<td>¹Massachusetts General Hospital, Boston, MA, ²Massachusetts Institute of Technology, Cambridge, MA</td>
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| **MHSRS-18-1834** | **POSTER SESSION 2 - #184** |
| **Phase III Clinical Evaluation of StrataGraft Skin Tissue for Severe Burns: The First Wound Healing Therapy to Receive FDA’s Regenerative Medicine Advanced Therapy Designation** |
| Presentation Author: Dr. Allen R. Comer |
| Allen Comer, PhD¹, Mary Lokuta, PhD¹, Peggy Rooney, PhD¹, Barbara Matthews, MD², David Ng, PhD³, David Morris, PhD⁴, Kristine E. Lee, MS⁵, Lynn Allen-Hoffmann, PhD¹,⁵ |
| ¹Stratatech, a Mallinckrodt Company, Madison, WI, ²BioDirect, Inc, Silver Spring, MD, ³ResearchPoint Global, Austin, TX, ⁴WebbWrites, Durham, NC, ⁵University of Wisconsin-Madison, Madison, WI |

| **MHSRS-18-1840** | **POSTER SESSION 2 - #185** |
| **Regions of Hyperpigmentation & Hypopigmentation in Hypertrophic Scar Contain Melanocytes in Equal Numbers** |
| Presentation Author: Ms. Bonnie Carney |
| Bonnie C. Carney, BS¹,², Taryn E. Travis, MD²,³, Laura S. Johnson, MD²,³, Jeffrey W. Shupp, MD²,³ |
| ¹Georgetown University School of Medicine, Washington, DC, ²MedStar Health Research Institute, Washington, DC, ³MedStar Washington Hospital Center, Washington, DC |

| **MHSRS-18-2034** | **POSTER SESSION 2 - #186** |
| **Omega-3 Rich Fish Skin Grafts in the Treatment of Full Thickness Burns: A Comparative Trial of Fish Skin & Cadaver Skin in a Porcine Model** |
| Presentation Author: Dr. Hilmar Kjartansson |
| Hilmar Kjartansson, MD²,³, Lt Col SLA Jeffrey, MD¹, Baldur Tumi Baldursson, MD, PhD²,³, Skuli Magnusson, BSc⁴, Sigurbergur Karason, MD², Katrin A Astradsdottir, BSc⁴, Eggert Gunnarsson, DVM⁴, Gunnar Audolfsson, MD¹, Dr. G. Fertram Sigurjonsson, MEng² |
| ¹The Royal Centre for Defence Medicine, Queen Elizabeth Hospital, Birmingham, UK, ²Landspitali - The National University Hospital of Iceland, Reykjavik, Iceland, ³Kerecis, Reykjavik, Iceland, ⁴Keldur - The Institute for Experimental Pathology, University of Iceland, Reykjavik, Iceland |

| **MHSRS-18-2082** | **POSTER SESSION 2 - #187** |
| **Platelet Rich Plasma Treatment Accelerates Re-Epithelialization in a Murine Model of Excisional Wound Healing** |
| Presentation Author: Ms. Bonnie Carney |
| Bonnie C. Carney, BS¹,², Benjamin J. Browne, BS¹, Lauren T. Moffatt, PhD¹, Dean S. Rosenthal, PhD¹, Jeffrey W. Shupp, MD¹,³ |
| ²MedStar Health Research Institute, Washington, DC, ³Georgetown University, Washington, DC, ³MedStar Washington Hospital Center, Washington, DC |

| **MHSRS-18-2184** | **POSTER SESSION 2 - #188** |
| **Electrochemical Lysis of Scars: Preliminary In Vivo Studies** |
| Presentation Author: Ms. Tiffany Pham |
| Tiffany T. Pham, MS¹,², Ellen Hong, BA¹, Wesley Moy, PhD¹,², Jiayi Zhang¹, Tatiana Krasieva, PhD¹, Pamela Borden¹, Kyle Hansen¹, Ryan Sivoraphorn¹, Sanghyun Nam, MD¹, Michael Hill, PhD¹, Wanggun Jia, PhD¹, Joon You, PhD¹, Brian JF Wong, MD, PhD¹,²,³ |
| ²Beckman Laser Institute & Medical Clinic, Irvine, CA, ³University of California - Irvine, Irvine, CA, ³Occidental College, Los Angeles, CA |
RESEARCH IN PROLONGED FIELD CARE & PRE-HOSPITAL TACTICAL
COMBAT CASUALTY CARE

MHSRS-18-0039  POSTER SESSION 2 - #189
Dawn Blitz MEDEX: Leveraging Operational Virtual Health During Military Training Exercises
Presentation Author: LCDR Art Ambrosio
LCDR Art Ambrosio, USN, MC, LT Kastley Marvin, USN, MC, LT Kyle Checchi, USN, MC, CDR Konrad Davis, USN, MC
Naval Medical Center San Diego, San Diego, CA

MHSRS-18-0042  POSTER SESSION 2 - #190
Efficacy of Intramuscular Cobinamide in a Swine Model of Hydrogen Sulfide Poisoning
Presentation Author: MAJ Joseph Maddry
MAJ Joseph Maddry, MD1, Normalynn Garrett, PhD2, Vikhyat Bebarta, MD3, Gerry Boss, MD4, Susan Boudreau, RN5,
Maria Castaneda, MS6, Kaysie Canellis6, Allyson Arana, PhD1
1San Antonio Military Medical Center, Institute of Surgical Research, Fort Sam Houston, TX, 259th Medical Wing,
Science & Technology, JBSA-Lackland, TX, 3University of Colorado, Denver, CO, 4University of California, San Diego, CA

MHSRS-18-0052  POSTER SESSION 2 - #191
Skeletal Muscle Preservation in an Ischemic Injury Using a Particulate Oxygen-Generating Material
Presentation Author: Dr. Sean Murphy
Sean Murphy1, Sunil George1, Poonam Sharma2, Thomas Walters3, James Yoo1
1Wake Forest Institute for Regenerative Medicine, Winston-Salem, NC, 2University of Virginia, Charlottesville, VA, 3US
Army Institute of Surgical Research, Houston, TX

MHSRS-18-0058  POSTER SESSION 2 - #192
Early Ketamine & Opioid Administration Following Serious Combat Injury: Injury Characteristics & Use
Presentation Author: Dr. Ted Melcer
Ted Melcer, PhD1, G. Jay Walker, BA2, Judy L. Dye, MS2, Melanie D. Adams, RHIT2, LCDR Andrew J. MacGregor, PhD3,
Michael R. Galarneau, MS, NREMT3
1Naval Health Research Center, San Diego, CA, 2Leidos, San Diego, CA

MHSRS-18-0189  POSTER SESSION 2 - #193
Early Ketamine Following Serious Combat Injury & Post-Traumatic Stress Disorder
Presentation Author: Dr. Ted Melcer
Ted Melcer, PhD1, Jay Walker, BA2, Judy L. Dye, MS, RN, ANP2, Melanie D. Adams, RHIT2, LCDR Andrew J. MacGregor,
PhD3, Michael R. Galarneau, MS, NREMT3
1Naval Health Research Center, San Diego, CA, 2Leidos, San Diego, CA

MHSRS-18-0212  POSTER SESSION 2 - #194
Improving the Learning Curve for Intubation: The Case for the Recessed Video Stylet
Presentation Author: Dr. Sabina Siddiqui
Sabina Siddiqui, MD1,2, Ruchi Amin, MD3, Laura McCormick, PhD2
1Children’s Hospital of Wisconsin, Medical College of Wisconsin, Milwaukee, WI, 2Brio Device LLC, Ann Arbor, MI

MHSRS-18-0234  POSTER SESSION 2 - #195
Liposomal Dexamethasone Improves Outcomes of Post-Traumatic Skeletal Muscle & Neuromuscular Junction
Presentation Author: Dr. Dongze Zhang
Dongze Zhang, MD, Huiyin Tu, PhD, Gang Zhao, MS, Dong Wang, PhD, Michael C. Wadman, MD, Yu-Long Li, MD, PhD
University of Nebraska Medical Center, Omaha, NE
MHSRS-18-0259  POSTER SESSION 2 - #196
A New Continuous Monitoring Device for Determining Compartment Pressure
Presentation Author: Dr. Edward Harvey
Edward Harvey, MD, MSc¹,², George Xereas, PhD², Charles Allan, MEng²
¹McGill University, Montreal, Canada, ²Myovue Inc, Montreal, Canada

MHSRS-18-0266  POSTER SESSION 2 - #197
The Prospective Validation of the Modified Physiological Triage Tool-24 (MPTT-24), An Evidence-Based Approach to Military Major Incident Triage
Presentation Author: LCDR James Vassallo
LCDR James Vassallo, MBBS¹-³, Jason E Smith, MD¹-³
¹Derriford Hospital, Plymouth, UK, ²Institute of Naval Medicine, Gosport, UK, ³Royal Centre for Defence Medicine, Birmingham, UK

MHSRS-18-0277 - POSTER SESSION 2 - #198
A Descriptive Analysis of Casualties Evacuated from the AFRICOM Area of Operations
Presentation Author: MAJ Steven Schauer
MAJ Steven G. Schauer, DO, MS¹-³, MAJ Michael D. April, MD, DPhil, MSC³, Maj Joseph K. Maddy, MD²-³, MAJ Jason F. Naylor, PA-C¹, MAJ Donald E Keen, MD¹, LTC Cord W. Cunningham, MD, MPH¹, LTC Tyson E. Becker, MD², Thomas Walters, PhD¹, COL Sean Keenan, MD³
¹US Army Institute of Surgical Research, JBSA Fort Sam Houston, TX, ²59th Medical Wing, JBSA Lackland, TX, ³Brooke Army Medical Center, JBSA Fort Sam Houston, TX, ⁴Madigan Army Medical Center, Joint Base Lewis McChord, WA, ⁵Army Medical Department Center & School, JBSA Fort Sam Houston, TX, ⁶Special Operations Command – Europe, Stuttgart, Germany

MHSRS-18-0292  POSTER SESSION 2 - #199
Effects of Early Altitude Exposure on the Open Abdomen
Presentation Author: Dr. Michael Goodman
Grace E. Martin, MD, Mark Johnson, BS, Rose Veile, BS, Lou Ann Friend, RVT, Jay A. Johannigman, MD, Timothy A. Pritts, MD, PhD, Joel B. Elterman, MD, Michael D. Goodman, MD, Amy T. Makley, MD
University of Cincinnati, Cincinnati, OH

MHSRS-18-0295  POSTER SESSION 2 - #200
Performance of UCH-L1 as a Serum Biomarker in the Setting of Polytrauma
Presentation Author: Dr. Michael Goodman
Grace E. Martin, MD, Andrew Jung, MD, Lou Ann Friend, RVT, Rose Veile, BS, Timothy A. Pritts, MD, PhD, Amy T. Makley, MD, Michael D. Goodman, MD
University of Cincinnati, Cincinnati, OH

MHSRS-18-0323  POSTER SESSION 2 - #201
Evaluation of Glucomannan Powder as an Ultrasound Transmission Gel Alternative, a Prospective, Randomized, Single-Blinded, Observational Study
Presentation Author: CPT Sandra Milton
CPT Sandra Milton, DSc, Aaron Cronin, DSc, Jon Monti, DSc

MHSRS-18-0371  POSTER SESSION 2 - #202
Prehospital Battlefield Casualty Intervention Decision Cognitive Study
Presentation Author: Dr. Marc Schweizer
Marc A. Schweizer, MBChB, MPH¹, David Wampler, PhD, LP², CPT Kevin Lu, MD³, MAJ Andrew S. Oh, MD⁴, Stephen J. Rahm, NRP⁵, CPT Nicholas M. Studer, MD, NRP⁶, COL Cord W. Cunningham, MD, MPH, FACEP⁷
¹DoD Joint Trauma System, JBSA-Fort Sam Houston, TX, ²University of Texas Health San Antonio, TX, ³Medical College of Georgia at Augusta University, Augusta, GA, ⁴1st Battalion, 1st Special Forces Group (Airborne), Okinawa, Japan, ⁵Centre for Emergency Health Sciences, Spring Branch, TX, ⁶Brooke Army Medical Center, JBSA-Fort Sam Houston, TX
MHSRS-18-0403  POSTER SESSION 2 - #203
The Effect of IV Resuscitation on Coagulation & Platelet Aggregaton After 40% TBSA Burns in Swine
Presentation Author: Dr. David Burmeister
David Burmeister, PhD, Jim Bynum, PhD, Xiaowu Wu, PhD, Belinda Gomez, PhD, Tony Chao, PhD, Daniel Darlington, PhD, Michael Dubick, PhD
US Army Institute of Surgical Research, Fort Sam Houston, TX

MHSRS-18-0463  POSTER SESSION 2 - #204
Airway Interventions in the Israel Defense Forces – The Need for Paradigm Change
Presentation Author: CPT Yuval Glick
CPT Yuval Glick, MD, COL Avraham Yitzhak, MD, MAJ Tomer Erlich, MD, LTC Jacob Chen, MD, MScMHA, MAJ Ariel Furer, MD
Israel Defense Forces Medical Corps, Ramat Gan, Israel

MHSRS-18-0501  POSTER SESSION 2 - #205
Acute Stress-Induced Metabolic Dysfunction
Presentation Author: Dr. Thurl Harris
Vidisha Raje, PhD, Nancy Howell, Katelyn W. Ahern, Alexandra Kadl, MD, Susanna Keller, MD, Thurl E. Harris, PhD
University of Virginia, Charlottesville, VA

MHSRS-18-0546  POSTER SESSION 2 - #206
Ketamine Administration in Prehospital Combat Injured Patients with TBI: A 10 Year Report of Survival & Clinical Outcomes
Presentation Author: Ms. Allee Torres
Allee Torres, MS1, Col Vikhyat S. Bebarta, MD2, MAJ Michael April, MD2, Maj Joseph Maddy, MD3, LTC Cord Cunningham, MD4, Emma Bebarta, Maj Steve G. Schauer, DO3
1University of Colorado School of Medicine, Aurora, CO, 2San Antonio Military Medical Center, Fort Sam Houston, TX, 3USAF Enroute Care Research Center, Fort Sam Houston, TX, 4US Army Institute of Surgical Research, Fort Sam Houston, TX

MHSRS-18-0547  POSTER SESSION 2 - #207
Tactical Combat Casualty Care Training, Knowledge & Utilization in the US Army
Presentation Author: COL Jennifer Gurney
COL Jennifer M. Gurney, USA, MC1, Caryn A. Turner, MPH1, Dallas R. Burelison, MBA1, CAPT (Ret) Frank K. Butler, USN, MC1, COL (Ret) Russ S. Kotwal, USA, MC1, COL Kirby R. Gross, USA, MC1, MSG (Ret) Harold R. Montgomery, USA1, COL Clinton K. Murray, USA, MC2, MSG (Ret) Edward H. Whitt, USA3, LTC(P) Cord W. Cunningham, USA, MC4, Col Stacy A. Shackelford, USAF, MC1, MaryAnn Spott, PhD1, CAPT Zsolt T. Stockinger, USN, MC1
1Joint Trauma System, JBSA-Fort Sam Houston, TX, 2Uniformed Services University of the Health Sciences, Bethesda, MD, 3Defense Health Agency, Falls Church, VA, 4US Army Institute of Surgical Research, JBSA-Fort Sam Houston, TX

MHSRS-18-0626  POSTER SESSION 2 - #208
The Incidence of Pediatric Cervical Spine Injuries in Iraq & Afghanistan
Presentation Author: Ms. Xandria Gutierrez
Xandria Gutierrez, BS1, Michael D. April, MD, DPhD, Msc2, Joseph K. Maddy, MD1,2, Guyon J. Hill, MD1,3, Steven G. Schauer, DO, MS1,3
159th Medical Wing, JBSA Lackland Air Force Base, TX, 2San Antonio Military Medical Center, JBSA, TX, 3US Army Institute of Surgical Research, JBSA Fort Sam Houston, TX, 4Dell Children’s Medical Center, Austin, TX, 5Madigan Army Medical Center, Joint Base Lewis-McChord, WA

MHSRS-18-0635  POSTER SESSION 2 - #209
Limited Volume Lactated Ringer’s & Plasma-Lyte are Comparable for IV Resuscitation in a Swine Burn Model
Presentation Author: Dr. Belinda Gomez
Belinda Gomez, PhD, Tony Chao, PhD, Joshua Little, SPC, Michael Dubick, PhD, David Burmeister, PhD
**Poster Session II**

**MHSRS-18-0767  POSTER SESSION 2 - #210**

*Evolution of Non-Operative Management of Abdominal Gunshot Wounds in the United States: Analysis of 16,866 Abdominal Gunshot Wounds*

Presentation Author: Capt Adil Lokhandwala
Capt Adil Lokhandwala, MD, Mohammad Hamidi, MD, Lynn Gries, MD, Muhammad Zeeshan, MD, Andrew Tang, MD, El Rasheed Zakaria, MD, PhD, Narong Kulvatunyou, MD, Terence O’Keeffe, MD, Bellal Joseph, MD
University of Arizona, Tucson, AZ

**MHSRS-18-0854  POSTER SESSION 2 - #211**

*Stable & Responsive Oxygen Microbubbles & Their Use as a Resuscitative Fluid*

Presentation Author: Dr. Brian Polizzotti
Brian Polizzotti, PhD, Yifeng Peng, PhD, Raymond Seekell, PhD, Alexis Cole, BS, Jemima Lamothe, BS, Andrew Lock, BS, Sarah van den Bosch, MS, Xiaojie Tang, MS, John Kheir, MD
1Boston Children’s Hospital, Boston, MA, 2Harvard Medical School, Boston, MA

**MHSRS-18-0891  POSTER SESSION 2 - #212**

*Does Combat Mortality Index (CMI) Predict Mortality in Injured Patients with Lower Injury Severity Score (ISS)?*

Presentation Author: Dr. Tuan Le
Tuan D. Le, MD, DrPH, COL Jennifer M. Gurney, MD, MC, CPT(P) Melissa A. Kottke, PhD, MC, LTC Christopher VanFosson, PhD, MC, COL (Ret) Elizabeth A. Mann-Salinas, PhD, Col Stacy A. Shackelford, MD, MC, Anthony E. Pusateri, PhD, COL Shawn C. Nessen, DO, MC
1US Army Institute of Surgical Research, Fort Sam Houston, TX, 2Joint Trauma System, Fort Sam Houston, TX

**MHSRS-18-0947  POSTER SESSION 2 - #213**

*Platform Wound Device with an Alginate Hydrogel Containing High Concentrations of Antibiotics for Prolonged Field Care of Burn & Blast Injured War Fighters*

Presentation Author: Dr. Elof Eriksson
Elof Eriksson, MD, PhD, Lu Yang, PhD, Josh Grolman, PhD, Michael Broomhead, MBA, Andrew Onderdonk, PhD, David Mooney, PhD, Kristo Nuutila MSc, PhD
1Applied Tissue Technologies LLC, Hingham, MA, 2Harvard University, Boston, MA, 3Harvard Medical School & Brigham & Women’s Hospital, Boston, MA

**MHSRS-18-0964  POSTER SESSION 2 - #214**

*Thoracic Bioimpedance-Based Cardiac Output Measurement Using the Aesculon Monitor Correlates with Bolus Thermodilution During Severe Blood Loss in Swine*

Presentation Author: Ms. Sydney Sachse
Sydney Sachse, BS, Milomar Simovic, MD, PhD, Corina Necsoiu, MD, Bryan Jordan, MS, RN, William Baker, BS, Mark Espinosa, BS, Sungmin Ko, MD, Elliot Ross, MD, Andriy Batchinsky, MD, Leopoldo Cancio, MD
1Oak Ridge Institute for Science & Education, Oak Ridge, TN, 2US Army Institute of Surgical Research, JBSA Fort Sam Houston, TX, 3Republic of Korea Army, Republic of Korea, 4US Naval Hospital, Guam, 5The Geneva Foundation, Tacoma, WA

**MHSRS-18-0986  POSTER SESSION 2 - #215**

*Emergency Airway Management at Brooke Army Medical Center: A 24-Month Descriptive Analysis*

Presentation Author: MAJ Michael April
MAJ Michael D. April, USA, MC, Maj Joseph K. Maddry, USAF, MC, Maj Steven G. Schauer, USA, MC, Jessie Fernandez, Kimberly Medlin, Nicole Shults, MAJ Daniel P. Sessions, USA, MS, MAJ Shane M. Summers, USA, MC, MAJ Robert M. Barnwell, USA, MS, Michael Hilliard, MD, Col Mark A. Antonacci, USAF, MC
1Brooke Army Medical Center, San Antonio, TX, 2USAF Enroute Care Research Center, JBSA-Lackland, TX, 3US Army Institute of Surgical Research, JBSA Fort Sam Houston, TX

**MHSRS-18-1095  POSTER SESSION 2 - #216**

*Ambient Temperature Stable, Bilayered, Human Extracellular Matrix Enriched, Bioengineered Temporary Skin Substitute for Deep Partial & Full Thickness Burns*

Presentation Author: Dr. Vivek Raut
Vivek Raut, PhD, Katie Faria, BS, Ronda Schreiber, PhD Organogenesis, Canton, MA
Molecular Chemical Imaging Sensor for Prolonged Pre-Hospital Combat Casualty Care
Presentation Author: Dr. James Post
James C. Post, MD, PhD, MSS, FACS\(^1\), Shona D. Stewart, PhD\(^2\), Aaron Smith, PhD\(^2\), Heather E. Gomer, MS in ECE\(^2\), Patrick J. Treado, PhD\(^2\)
\(^1\)Allegheny General Hospital, Pittsburgh, PA, \(^2\)ChemImage Corporation, Pittsburgh, PA, PA

MHSRS-18-1174  POSTER SESSION 2 - #218
Combat Mortality Over 75 Years of War & Peace: Alarming Trends Demand Answers
Presentation Author: Lt Col Jeremy Cannon
Lt Col Jeremy W. Cannon, MD, SM\(^1,2\), Daniel N. Holena, MD, MSCE\(^1\), Ian J. Stewart, MD\(^3\), Wei Yang PhD\(^3\), Yanlan Huang, MS\(^3\), Shawn C. Nessen, DO\(^3\), Kirby R. Gross, MD\(^3\), C. William Schwab, MD\(^3\)
\(^1\)University of Pennsylvania, Philadelphia, PA, \(^2\)Uniformed Services University of the Health Sciences, Bethesda, MD, \(^3\)David Grant Medical Center, Travis Air Force Base, CA, \(^4\)US Army Institute of Surgical Research, Fort Sam Houston, TX, \(^5\)Army Trauma Training Center, Miami, FL

MHSRS-18-1182  POSTER SESSION 2 - #219
Novel 3D-Printed Larynx as a Model for Realistic Surgical Cricothyrotomy for Military Prehospital Providers
Presentation Author: 2LT Nathaniel Miller
2LT Nathaniel Miller, MS\(^1\), Nolan Jones, MS\(^1\), Peter Liacouras, PhD\(^2\), Michael Orestes, MD\(^2\)
\(^1\)Uniformed Services University, Bethesda, MD, \(^2\)Walter Reed National Military Medical Center, Bethesda, MD

MHSRS-18-1252  POSTER SESSION 2 - #220
Temporary Ocular Device to Achieve Rapid Closure of Full-Thickness Open Globe Injuries
Presentation Author: Dr. Rod Jose
Rod Jose, PhD, Jason Forte, PhD
Triton Systems, Inc, Chelmsford, MA

MHSRS-18-2226  POSTER SESSION 2 - #221
Mitochondria Targeted Therapy for Hemorrhagic Shock
Presentation Author: Raghavan Raju
K Subramani, M Warren, X Chu, R Schwartz, MP Diamond, R Raju
Medical College of Georgia, Augusta University, Augusta, GA

MHSRS-18-1264  POSTER SESSION 2 - #222
Ex-Situ Normothermic Limb Perfusion with an HBOC-Based Perfusate.
Presentation Author: Dr. Sayf Al-deen Said
Sayf Said, MD, Vahe Fahradyan, MD, Carlos Ordeñana, MD, Majid Razae, DDS, MSc, Maria Madjka, PhD, Antonio Rampazzo, MD, PhD, Bahar Bassiri Gharb, MD, PhD
The Cleveland Clinic Foundation, Cleveland, OH

MHSRS-18-1274  POSTER SESSION 2 - #223
Bioinspired Synthetic Nanoparticles as Universal Antivenom
Presentation Author: Dr. Yang Xu
Brad Brooks\(^1\), Zack Zhou\(^1\), Jennifer Miller\(^1\), Zhigu Zhou\(^1\), Yang Xu\(^1\), Christopher Tison\(^2\)
\(^1\)Luna Innovations Incorporated, Danville, VA, \(^2\)Luna Innovations Incorporated, Charlottesville, VA

OPEN  POSTER SESSION 2 - #224

MHSRS-18-1365  POSTER SESSION 2 - #225
Muscle Protein Loss in Severely Burned Adults
Presentation Author: Dr. Wenjun Martini
Beth Shields, MS, Michael Dubick, PhD, Kevin Chung, MD

MHSRS-18-1489 POSTER SESSION 2 - #226
Developing a Validated Simulation Platform for Testing Telemedicine’s Impact on Clinician Performance During Prolonged Field Care
Presentation Author: Ms. Sena Veazey
Sena Veazey, MS1, Katy Cohen, RN, Maria Serio-Melvin, MSN, RN, Stacie Barczak, BA2, David Luellen, BS, MBA1, Edith Weidemann, BSN, RN, Kevin Ross2, Douglas Powell, MD3, Jose Salinas, PhD1, Jeremy Pamplin, MD2
1US Army Institute of Surgical Research, San Antonio, TX, 2Madigan Army Medical Center, Tacoma, WA, 3Fort Bragg, Fayetteville, NC

MHSRS-18-1263 POSTER SESSION 2 - #227
Effective Combat Casualty Care for Handoff Operations
Presentation Author: Camilla Knott
Camilla Knott, PhD1, Anna Grome, MA1, Kerri Chik, MA1, Col Douglas “Boots” Hodge (R)2, MPAS, Lewis Christianson3, CDR Henry Phillips IV4, LCDR Lee W. Sciarini, PhD, MSC, USN3
1TiER1 Performance Solutions, 2Wright State University, National Center for Medical Readiness, 3Air Force, 4Naval Air Warfare Center Training Systems Division, 5Training Technology Directorate, Naval Survival Training Institute

MHSRS-18-1604 POSTER SESSION 2 - #228
US Army Medic Performance Employing Tele-Ultrasound in the Assessment of Trauma, a Prospective, Observational, Pilot Study
Presentation Author: CAPT James Shearer
CPT Levi Shearer, DSc1, CPT Kara Purdy, DO1, MAJ Brett Gendron, DSc, MAJ(P) Aaron Cronin, DSc
Madigan Army Medical Center, Tacoma, WA

MHSRS-18-1653 POSTER SESSION 2 - #229
Biometric Analysis of Cervical & Thoracolumbar Movement During Simulated Ambulance Transport
Presentation Author: Dr. David Wampler
David Wampler, PhD, LP FAEMS1,2, Ronald Stewart, MD1, Rena Summers, BA2, Lawrence Roakes, EMT-P3, Craig Cooley, MD, MPH, EMT-P, Tasia Long, MHS, Brian Eastridge, MD1,2
1University of Texas Health Science Center at San Antonio, San Antonio, TX, 2Southwest Texas Regional Advisory Council, San Antonio, TX

MHSRS-18-1658 POSTER SESSION 2 - #230
Cross-Sectional Survey of Emergency Health Care Providers Capability to Perform to TCCC Standards
Presentation Author: Dr. David Wampler
David Wampler, PhD, LP FAEMS1,2, Tasia Long, MHS2, Rena Summers, BA2, Randall Schaefer, MSN, RN, ACNS-BC, CEN2, Kevin Lu, MD1, Brian Eastridge, MD1,2, LTC Cord Cunningham, MD, MPH, FACEP3
1University of Texas Health Science Center at San Antonio, San Antonio, TX, 2Southwest Texas Regional Advisory Council, San Antonio, TX, 3United States Army

MHSRS-18-1669 POSTER SESSION 2 - #231
ThoraSite: A Device to Improve Accuracy of Lateral Decompression Needle & Chest Tube Placement
Presentation Author: Dr. Amit Shah
Amit Shah, MD1, Curt Kothera, PhD1, Sachin Dheer, MD2
1InnoVital Systems, Calverton, MD, 2Thomas Jefferson University, Philadelphia, PA
Remote Just-In-Time Telementored Tourniquet Application: A Double-Factorial Randomized Controlled Trial Examining Two Tactical Tourniquets & Scripted or Unscripted Mentor-Mentee Guidance – A Pilot Study
Presentation Author: Ms. Jessica Mckee
Jessica L. Mckee, BA, MSc, Paul McBeth, MD, MASc, FRCS(C), P Eng, Ian A. Mckee, TI, Lawrence Gillman, MD, MMEd, FRCS(C), FACS, Juan P. Wachs, PhD, Robert Barrett, PhD, W. Robert Leeper, MD, FRCP, FRCS(C), Major Andrew W. Kirkpatrick, CD, MD, MHSc, FRCS(C), FACS
1University of Calgary, Calgary, Canada, 2Alberta Health Services, Foothills Medical Centre, Calgary, Canada, 3Canadian Forces Health Services, Canada, 4City of Edmonton, Edmonton, Canada, 5University of Manitoba, Winnipeg, Canada, 6School of Industrial Engineering, Purdue University, West Lafayette, IN, 7Schulich School of Medicine & Dentistry, Western University, London, Canada

Police Department Tactical Medicine (TACMED) Program Impact on Trauma Patient Mortality: A Review of a Large Urban EMS & TACMED System
Presentation Author: CDR Elliot Ross
CDR Elliot Ross, MD, David Wampler, PhD, LA, Avery E. Kester, BS, Xandria E. Gutierrez, BS, Crystal A. Perez, BSN, RN, Lauren K. Reeves, MSH, Alejandra G. Mora, BS, Joseph K. Maddry, MD, Craig Manifold, DO
1San Antonio Military Medical Center, San Antonio, TX, 2University of Texas Health Science Center at San Antonio, 3San Antonio Uniformed Services Health Education Consortium, San Antonio, TX, 4Southwest Texas Regional Advisory Council & RemTORN, San Antonio, TX, 5USAF Enroute Care Research Center, Joint Base San Antonio-Lackland, TX

Monitoring Pulmonary Contusion During Prolonged Field Care: A Pilot Study Comparing Ultrasound to Computed Tomography for Serial Imaging of Lung Contusion in a Porcine Trauma Model
Presentation Author: Capt Carl Beyer
Capt Carl Beyer, MD, Guillaume Hoareau, DVM, PhD, Eduard Poltavskiy, PhD, Lauren Walker, Ian Stewart, MD, Michael Johnson, MD
1David Grant USAF Medical Center, Travis AFB, CA, 2University of California Davis Medical Center, Sacramento, CA

A Review of Casualties that Underwent Airway Management Before Reaching Role 2 in Afghanistan
Presentation Author: CPT Ian Hudson
CPT Ian L. Hudson, DO, MPH, Amanda Staadt, MPH, Megan B. Blackburn, PhD, Kathy L. Ryan, PhD, Cord Cunningham, MD, MPH, Elizabeth A. Mann-Salinas, PhD, RN
US Army Institute of Surgical Research, Fort Sam Houston, Texas

Long Term Outcomes Associated with Lifesaving Interventions Performed in a Prehospital Combat Setting: A Multicenter, Prospective Observational Study
Presentation Author: Col Julio Lairet
Col Julio Lairet, DO, Vikhyat Bebarta, MD, Joseph Maddry, MD, Lauren Reeves, MSH, Alejandra Mora, MS, Lorne Blackbourne, MD, Todd E. Rasmussen, MD
1Emory University School of Medicine, Atlanta, GA, 2Headquarters Georgia Air National Guard, Marietta, GA, 3Atlanta VA Medical Center, Decatur, GA, 459th MDW/Chief Scientist Office, USAF En Route Care Research Center, 5University of Colorado School of Medicine, Aurora, CO, 6Army Medical Department Center & School, JBSA Fort Sam Houston, TX
MHSRS-18-1844  POSTER SESSION 2 - #237
Pre-Hospital Use of Ketamine in the Combat Setting: A Sub-Analysis of Patients with Head Injuries in the Prospective Life Saving Intervention (LSI) Study
Presentation Author: Col Vikhyat Bebarta
Col Vikhyat S. Bebarta, MD, MDW/Chief Scientist Office, USAF; Emma Bebarta, Alejandro Mora, MS, Lauren Reeves, MsPH, Maj Joseph Maddry, MD; Maj Steven Schauer, DO, MS; Col Julio Laiiret, DO
1 MDW/Chief Scientist Office, USAF En Route Care Research Center, 2 Cherry Creek High School, Greenwood Village, CO, 3Emory University School of Medicine, Atlanta, GA, 4Headquarters Georgia Air National Guard, Marietta, GA, 5Atlanta VA Medical Center, Decatur, GA, 6University of Colorado School of Medicine, Aurora, CO

MHSRS-18-1941  POSTER SESSION 2 - #238
Presentation Author: Ms. Sarah Dyer
Sarah E. Dyer, BS; J. David Remer, MS; Thomas J. Walters, PhD; George J. Christ, PhD
1 University of Virginia, Charlottesville, VA, 2 US Army Institute for Surgical Research, Fort Sam Houston, San Antonio, TX

MHSRS-18-1972  POSTER SESSION 2 - #239
Comparison of Army, Navy, & Air Force Emergency Medical Technician Candidates’ Performance on the National Certification Exam
Presentation Author: MAJ Stephen Harper
Rebecca Cash, MPH, NRP; MAJ Stephen Harper, USA, MC; Remle Crowe, MS, NREMT; Gregory Owens, MPH; Jeremy Miller, MED, NRP; Benjamin Walrath, MC, USN; SMSgt Jennie Carmichael, USAF; Ashish Panchal, MD, PhD
1 National Registry of Emergency Medical Technicians, Columbus, OH, 2 Medical Education & Training Campus, FSH JBSA, TX, 3Naval Medical Center, San Diego, CA, 4USAF Emergency Medical Services, JBSA, TX

MHSRS-18-2020  POSTER SESSION 2 - #240
A Review of the Literature Examining Naloxone for the Treatment of Shock Conditions: Implications for Prolonged Field Care & Future Combat Casualty Research.
Presentation Author: CPT Ian Hudson
CPT Ian Hudson, DO, MPH; Cord Cunningham MD, MPH; Anthony Hackett, DO; Michael April, MD, DPhil, MSC
1US Army Institute of Surgical Research, JBSA Fort Sam Houston, TX, 2Carl R Darnall Army Medical Center, Fort Hood, TX, 3Brooke Army Medical Center, JBSA Fort Sam Houston, TX

MHSRS-18-2099  POSTER SESSION 2 - #241
Systematic Review of Oxygenation & Clinical Outcomes to Inform Oxygen Targets in Combat Casualty Care
Presentation Author: Dr. Adit Ginde
Adit A. Ginde, MD, MPH; Maj Steven G. Schauer, DO; David Douin, MD; Erin Anderson, RN; Kristen DeSanto, MS; LTC Cord Cunningham, MD, MPH; Col Vikhyat S. Bebarta, MD
1 University of Colorado School of Medicine, Aurora, CO, 2USAF Enroute Care Research Center/USAISR, Fort Sam Houston, TX, 3US Army Institute of Surgical Research, Fort Sam Houston, TX

MHSRS-18-2100  POSTER SESSION 2 - #242
A Retrospective Review of the Pre-Hospital Respiratory Effects of Analgesic Agents Administered to Injured Civilians
Presentation Author: Ms. Tasia Long
Tasia Long, MHS; David Wampler, PhD, LP, FAEMS; Randall Schaefer, MSN, RN, ACNS-BC, CEN; Rena Summers, BA; Lawrence Roakes, EMT-P; Brian Eastridge, MD
1Southwest Texas Regional Advisory Council, San Antonio, TX, 2University of Texas Health Science Center at San Antonio, San Antonio, TX
MHSRS-18-2148 POSTER SESSION 2 - #243
Development of a Novel, Environmentally Stable & Portable, POC Blood Analyzer
Presentation Author: Dr. Sanjiv Lalwani
Kelley Reaves1, Jared Mike1, Chris O’Brien1, Russ Kotwall2, Harold R. Montgomery2, Sanjiv Lalwani1, Billy McCulloch1, Jessica Potts1, Hannah Werner1, Tyler Houseweart1, Thomas Petersen1, John Zbranek1, Brian Watkins1
1Lynntech, Inc, College Station, TX, 2Independent Consultant

MHSRS-18-2176 POSTER SESSION 2 - #244
Role I Trauma Experience of the Israeli Defense Force Medical Corps on the Syrian Border 2013-2017
Presentation Author: LTC Avi Benov
LTC Avi Benov, MD, Tomer Koler, MD, Jacob Chen, MD, Tarif Bader, MD, Noam Fink, MD
Israeli Defense Forces Medical Corps, Israel

MHSRS-18-2177 POSTER SESSION 2 - #245
Role 1 Pediatric Trauma Care on the Israeli-Syrian Border Five Years of the Humanitarian Aid
Presentation Author: LTC Avi Benov
LTC Avi Benov, MD, Tomer Koler, MD, Bian Moaddi, MD, Jacob Chen, MD, Tarif Bader, MD, Noam Fink, MD
Israeli Defense Forces Medical Corps, Israel

MHSRS-18-2179 POSTER SESSION 2 - #246
Defining the Goals for Pre-Deployment Training by Role I Medical Teams
Presentation Author: LTC Avi Benov
Galit Natan1, Yossi Saada1, Sapir Rado1, Ben Antebi, PhD2, LTC Avi Benov, MD1, Tomer Koler, MD1
1Israeli Defense Forces Medical Corps, Israel, 2United States Army Institute of Surgical Research, JBSA Fort Sam Houston, TX

FORWARD SURGICAL CARE: BRINGING SURGICAL CAPABILITIES TO THE POINT OF NEED

MHSRS-18-0102 POSTER SESSION 2 - #247
The “Top 10” Research and Development Priorities for Battlefield Surgical Care: Results from the Committee on Surgical Combat Casualty Care
Presentation Author: COL Matthew Martin
COL Matthew Martin, MD, John Holcomb, MD, Travis Polk, MD, Matthew Hannon, MD, Brian Eastridge, MD, Saafan Z. Malik, MD, Virginia Blackman, PhD, Joseph Galante, MD, Daniel Grabo, MD, Stacy Shackelford, MD, Martin Schreiber, MD
Joint Trauma System, San Antonio, TX

MHSRS-18-0114 POSTER SESSION 2 - #248
Extending the Golden Hour for Zone 1 REBOA: Improving Survival & Reperfusion Injury with Intermittent Versus Continuous REBOA in a Porcine Severe Truncal Hemorrhage Model
Presentation Author: CPT John Kuckelman
CPT John Kuckelman, DO1, Morgan Barron, MD1, Donald Moe, MD1, Michael Derickson, MD1, Cody Phillips, DO1, Joseph Koonchik, PhD1, Michael Lallemand, MD1, Shannon Marko, DVM1, Matthew Eckert, MD2, Matthew J. Martin, MD1-2
1Madigan Army Medical Center, Tacoma, WA, 2Legacy Emanuel Medical Center, Portland, OR

MHSRS-18-0147 POSTER SESSION 2 - #249
Deployed Nursing Competencies Utilizing Consensus Combat Casualty Care Domains
Presentation Author: Dr. Elizabeth Mann-Salinas
Elizabeth Mann-Salinas, PhD, RN1, Krystal Valdez-Delgado, BSN, RN1, Susan Boyer, DNP, RN2, Jennifer Trevino, MBA4, Nicole Caldwell, BA, RN1, Christopher VanFosson, PhD, MHA, RN1
1US Army Institute of Surgical Research, San Antonio, TX, 2Vermont Nurses in Partnership, Ascutney, VT
MHSRS-18-0236  POSTER SESSION 2 - #250
Safe Burn Excision Prior to Repatriation: An Achievable Goal?
Presentation Author: Lt Col Steven Jeffery

MHSRS-18-0358  POSTER SESSION 2 - #251
Treatment of Hemorrhage & Infected Wounds by Robust & Biocompatible Composites Obtained by Green Synthesis from Metal Nanoparticles, Cellulose, Wool, Hair & Chicken Feather
Presentation Author: Dr. Chieu Tran
Chieu Tran, PhD1, Erik Munson, PhD1, Luther Kloth, MS1, Paul Trulove, PhD2, Luke Haverhals, PhD3
1Marquette University, Milwaukee, WI, 2US Naval Academy, Annapolis, MD, 3Bradley University, Peoria, IL

MHSRS-18-0405  POSTER SESSION 2 - #252
Evaluation of Pre-Deployment Training for Army Nurses & Medics
Presentation Author: LTC Christopher VanFosson
LTC Christopher A. VanFosson, PhD, MHA, RN1, Jennifer D. Trevino, MBA1, Krystal K. Valdez-Delgado, BSN, RN1, Mithun R. Suresh, MD1, Nicole W. Caldwell, BA, RN1, Amanda M. Staudt, PhD, MPH1, Tricia L. Garcia-Choudary, MPH, BSN, RN1, Elizabeth A. Mann-Salinas, PhD, RN, FCCM1
1US Army Institute of Surgical Research, JBSA Fort Sam Houston, TX

MHSRS-18-0406  POSTER SESSION 2 - #253
A Case Series of US Military Working Dogs Treated by Role 2 Surgical Teams in Afghanistan
Presentation Author: Mrs. Jennifer Trevino
Jennifer D. Trevino, MBA1, LTC Christopher A. VanFosson, PhD, MHA1, Krystal K. Valdez-Delgado, BSN, RN1, Amanda M. Staudt, PhD, MPH1, Mithun R. Suresh, MD1, LTC Thomas H. Edwards, DVM, Nicole W. Caldwell, BA, RN1, Tricia L. Garcia-Choudary, MPH, RN1, COL (Ret) Elizabeth A. Mann-Salinas, PhD, RN1
1US Army Institute of Surgical Research, JBSA Fort Sam Houston, TX

MHSRS-18-0540  POSTER SESSION 2 - #254
There is More to Mortality Than the Case Fatality Rate: Toward a Better Understanding of Combat Casualty Statistics in the Era of the GWOT
Presentation Author: CAPT Zsolt Stockinger
CAPT Zsolt T. Stockinger, United States Navy, MD, MC1, Caryn A. Turner, MPH1, Lt Col Edward Mazuchowski, MD, MC, United States Air Force2, Jud Janak, PhD1, Jeffrey Howard, PhD1, MaryAnn Spott, PhD1
1Joint Trauma System, JBSA, TX, 2Armed Forces Medical Examiner System, JBSA, TX

MHSRS-18-0661  POSTER SESSION 2 - #255
Photoacoustic Transesophageal Echocardiography for Improving Early Management of Hemorrhagic Shock: Towards Clinical Validation
Presentation Author: Dr. Li Li
Li Li, PhD1, Balachundhar Subramaniam, MD2, Joseph A. Gardecki, PhD4, Guillermo J. Tearney, MD, PhD1
1Wellman Center for Photomedicine, Massachusetts General Hospital, Harvard Medical School, Boston, MA, 2Beth Israel Deaconess Medical Center, Boston, MA

MHSRS-18-0789  POSTER SESSION 2 - #256
Preservation of Debrided or Excised Traumatic Limb Injury Tissues for Later Reconstructive Surgeries
Presentation Author: Dr. Demetri Spyropoulos
Demetri D. Spyropoulos, PhD1, Jean M. Ruddy, MD1, Danforth Newton, PhD1, Gayle Cunningham1, Kate Sokolowska, PhD2, Mimi Sammarco, PhD3, Frederick O’Brien, MD4, Luis Marrero, PhD5, Fay Betsou, PhD2, Bruce A. Bunnell, PhD3, John E. Baatz, PhD1
1Medical University of South Carolina, Charleston, SC, 2International Biobank of Luxembourg, Luxembourg, LU, 3Tulane Nonhuman Primate Research Center, Covington, LA, 4Dwight D. Eisenhower Army Medical Center, Fort Gordon, GA, 5Louisiana State University Health Sciences Center, New Orleans, LA
MHSRS-18-0976  POSTER SESSION 2 - #257
Engineering Investigational Human Acellular Vessels for Vascular Surgery & Trauma
Presentation Author: Jeffrey Lawson
Jeffrey H. Lawson1,2, Shannon L. M. Dahl2, Shawn M. Gage2, Alison J. Pilgrim2, Heather L. Prichard2, William E. Tente2, Laura E. Niklason2,3
1Duke University, Durham, NC, 2Humacyte Inc, Durham, NC, 3Yale University, New Haven, CT

MHSRS-18-1086  POSTER SESSION 2 - #258
An Intraoperative Imaging Platform for Burn Debridement Based on Self-Referencing Low Coherence Interferometry: Modelling & Phantom Studies
Presentation Author: 1LT Yangyundou Wang
1LT Yangyundou Wang, PhD, Benjamin J Vakoc, PhD
Massachusetts General Hospital, Boston, MA

MHSRS-18-1088  POSTER SESSION 2 - #259
Effects of Temperature Correction on Key Arterial Blood Gas Measures in a Combat Relevant Trauma Model Treated with Therapeutic Hypothermia: Implications for Prolonged Field Care
Presentation Author: Mr. Kyle Sieck
Kyle Sieck, BS1, Daniel Wendorff, BS2, Brendan Beely, RRT1, George Harea, BS1, Jae Hyek Choi, PhD, DVMSc1, Alexander Dixon, BS1, Teryn Roberts, MS1,2, Vitali Karaliou, MD1, Leopoldo Canicio, MD3, Valerie Sams, MD4, Andriy Batchinsky, MD1,2
1The Geneva Foundation, Tacoma WA, 2Morsani College of Medicine, University of South Florida, Tampa, FL, 3US Army Institute of Surgical Research, JBSA-Fort Sam Houston, TX, 459th Medical Wing, JBSA, TX

MHSRS-18-1098  POSTER SESSION 2 - #260
Adjunct Use of Mechanical Ventilation & Veno-Venous ECLS in a Model of Prolonged Field Care & Ground & High-Altitude Evacuation
Presentation Author: Mr. Brendan Beely
Brendan Beely, RRT1, Vitali Karaliou, MD1, Daniel Wendorff, BS1, George Harea, BS1, Kyle Sieck, BS1, Teryn Roberts, MS1,2, Jae Hyek Choi, PhD, DVMSc1, Leopoldo Canicio, MD3, Valerie Sams, MD4, Andriy Batchinsky, MD1,2
1The Geneva Foundation, Tacoma, WA, 2University of South Florida, Tampa, FL, 3US Army Institute of Surgical Research, JBSA Fort Sam Houston, TX, 459th Medical Wing, JBSA, TX

MHSRS-18-1217  POSTER SESSION 2 - #261
The Spectrum of Military Ocular Combat Casualty Care (MOC3): Damage Control Ophthalmology (DCO), Ophthalmic Prolonged Theater Care (OPTC), & Definitive Ophthalmic Theater Care (DOTC)
Presentation Author: Dr. Robert Mazzoli
Robert A. Mazzoli, MD, FACS1,2, Mark Reynolds, MD1, Frank LaPiana, MD1, James W. Karesh, MD, FACS1, Jo Ann Egan, BSN, MS1,2, Travis C. Frazier, MD1,2,3
1DoD-VA Vision Center of Excellence, Bethesda, MD, 2Madigan Army Medical Center, Tacoma, WA, 3Uniformed Services University of the Health Sciences, Bethesda, MD, 4US Army Public Health Command, Aberdeen, MD

MHSRS-18-1265  POSTER SESSION 2 - #262
The Intra-Operative Positioning System (IOPS) Applied to Combat Situations
Presentation Author: Mr. Vikash Goel
Vikash R Goel, MS, John P Turnbull, PhD
Centerline Biomedical, Inc, Cleveland, OH

MHSRS-18-1500  POSTER SESSION 2 - #263
Antimicrobial & Thromboresistant Intravascular Catheters via Nitric Oxide Releasing Polymers
Presentation Author: Dr. Elizabeth Brisbois
Elizabeth Brisbois, PhD1, Hitesh Handa, PhD2
1University of Central Florida, Orlando, FL, 2University of Georgia, Athens, GA
MHSRS-18-1526  POSTER SESSION 2 - #264
Amicidin-Alpha Surgical Gel for the Prevention of Surgical & Traumatic Wound Infections in the Era of Antibiotic Resistance
Presentation Author: Dr. Doug Looker
Doug Looker, PhD, Daniel J. Huang, Timothy J. Deming, PhD, Shalyn Lane, Joseph S. Solomkin, MD, FACS, Michael P. Bevilacqua, MD, PhD
Amicrobe, Inc, Carlsbad, CA

MHSRS-18-1666  POSTER SESSION 2 - #265
Design & Preliminary Results of a TEE Pilot Study for a Lower Extremity Fasciotomy Part-Task Trainer
Presentation Author: CAPT William Pike
CAPT William Y. Pike¹, Angela M. Alban, MS², Edward J. Stadler², Jordan N. Coulter², Thomas Seland², Sgt Richard Kelly³
¹US ARL HRED-STTC, Orlando, FL, ²SIMETRI, Inc, Winter Park, FL, ³JSOMTC, Fort Bragg, NC

MHSRS-18-1798  POSTER SESSION 2 - #266
Evaluation of Adherence to Joint Trauma System Cervical Spine Injury Clinical Practice Guidelines
Presentation Author: Mr. Trevor Maness
Trevor Maness, MVPH, Col Stacey Shackelford, Deborah del Junco, PhD, COL Jennifer Gurney, CAPT Zsolt Stockinger
Joint Trauma System, San Antonio, TX

MHSRS-18-1884  POSTER SESSION 2 - #267
Micro-Oxygen Sensors for Wound Healing Prediction in Critical Limb Ischemia
Presentation Author: Mr. William McMillan
William McMillan, Natalie Wisniewski, PhD, Stephen Kanick, PhD, Kerstin Rebrin, PhD
Profusa, Inc, South San Francisco, CA

MHSRS-18-1921  POSTER SESSION 2 - #268
Traumatic Cardiac Arrest in Role 2 Surgical Units in Afghanistan
Presentation Author: Dr. Mithun Suresh
Mithun R. Suresh, MD¹, Amanda M. Staudt, PhD, MPH¹, Tuan D. Le, MD, DrPH¹, LTC Christopher A. VanFosson, PhD, RN³, COL Kevin K. Chung, MD³, CPT Ian L. Hudson, DO, MPH¹, COL Jennifer M. Gurney, MD¹³, CAPT Zsolt T. Stockinger, MD³, COL Stacy A. Shackelford, MD³, COL Shawn C. Nessen, DO³, COL (Ret) Elizabeth A. Mann-Salinas, PhD, RN³.
¹US Army Institute of Surgical Research, JBSA Fort Sam Houston, TX, ²Brooke Army Medical Center, JBSA Fort Sam Houston, TX, ³Joint Trauma System, JBSA Fort Sam Houston, TX

MHSRS-18-2178  POSTER SESSION 2 - #269
Forward Surgical Team on a Hostile Border
Presentation Author: LTC Avi Benov
LTC Avi Benov, MD, Tarif Bader, MD
Israeli Defense Forces Medical Corps, Israel

EN ROUTE CARE

MHSRS-18-0103  POSTER SESSION 2 - #270
Utility of CT Angiography in the Initial Evaluation of Lower Extremity Trauma: 158 Patient Case Series
Presentation Author: CPT Genevieve Rambau
CPT Sean Kelly, David J Tennet, MD, Genevieve Rambau, MD, Patrick M. Osborn, MD
Brooke Army Medical Center, San Antonio, TX
**MHSRS-18-0222** POSTER SESSION 2 - #271
Quantification of Litter Patient Motion & Vibration Patterns to Assess Exposures During AMBUS Transport
Presentation Author: Mr. Chris Dooley
Christopher J. Dooley, MS\(^1\), Suzanne D. Smith, PhD\(^2\), Brittany L. Fouts, MS\(^1\), David S. Burch, PhD\(^1\)
\(^1\)711 Human Performance Wing (HPW), School of Aerospace Medicine, \(^2\)711 HPW, Airmen Effectiveness Directorate, Wright-Patterson AFB OH 45433

**MHSRS-18-0257** POSTER SESSION 2 - #272
Effect of Extended Hypobaria on Research Subjects’ Well-Being & Skeletal Muscle Resident Macrophages
Presentation Author: Dr. Liyuan Zhang
Liyuan Zhang, PhD\(^1\), Julia Soulakova, PhD\(^2\), Barbara St. Pierre Schneider, PhD, RN\(^1\)
\(^1\)University of Nevada, Las Vegas, Las Vegas, NV, \(^2\)University of Central Florida, Orlando, FL

**MHSRS-18-0432** POSTER SESSION 2 - #273
Presentation Author: Ms. Stephanie McWhorter
Stephanie McWhorter, MA\(^1\), Rima Nandi, BA\(^2\), HMC Thomas Walsh\(^3\)
\(^1\)Naval Health Research Center, San Diego, CA, \(^2\)Leidos, San Diego, CA, \(^3\)Carrier Air Wing 11, Naval Air Station Lemoore, Lemoore, CA

**MHSRS-18-0436** POSTER SESSION 2 - #274
Performance Characteristics of Fluid Warming Technology in Austere Environments
Presentation Author: Mr. Thomas Blakeman
Thomas Blakeman, MSc\(^1\), Fowler John, RN\(^2\), Dario Rodriguez, Jr, MSc\(^2\), Michael Petro, MD\(^2\). Richard Branson, MSc\(^3\)
\(^1\)University of Cincinnati, Cincinnati, OH, \(^2\)USAF School of Aerospace Medicine, Wright Patterson Air Force Base, OH

**MHSRS-18-0450** POSTER SESSION 2 - #275
Evaluation of an Electronic Data Collection System (eDCS) for Navy En Route Care & Operations Data
Presentation Author: Ms. Rima Nandi
Rima Nandi, BA\(^1\) & Stephanie McWhorter, MA\(^2\)
\(^1\)Leidos, San Diego, CA, \(^2\)Naval Health Research Center, San Diego, CA

**MHSRS-18-0515** POSTER SESSION 2 - #276
Limitations of Capnography in the En Route Care Environment
Presentation Author: Ms. Katy Fiebel
Katy Fiebel\(^1\), Chris Yang\(^1\), Bob Eshelman\(^1\), David Jones\(^1\)
\(^1\)US Army Aeromedical Research Laboratory, Fort Rucker, AL, \(^2\)Oak Ridge Institute for Science & Education, Oak Ridge, TN

**MHSRS-18-0541** POSTER SESSION 2 - #277
Model for Defining an Optimal O2 Level During Flight
Presentation Author: Dr. Francoise Arnaud
Francoise Arnaud PhD\(^1\), Richard McCarron PhD, Carl Goforth MD, Anke Scultetus MD
Naval Medical Research Center, Silver Spring, MD & Uniformed Services University of the Health Sciences, Bethesda, MD

**MHSRS-18-0579** POSTER SESSION 2 - #278
Oxygen Requirements of Mechanically Ventilated Casualties – An Evidence Based Evolution
Presentation Author: Mr. Dario Rodriguez
Dario Rodriguez Jr, MSc\(^1\), Alejandra GMora, BS\(^2\), Joseph K Maddry, MD\(^2\), Jay Johannigman, MD\(^3\), Dina Gomaa, BS\(^3\), Thomas Blakeman, MSc\(^3\), Richard Branson, MSc\(^3\)
\(^1\)USAF School of Aerospace Medicine, Wright Patterson AFB, OH, \(^2\)USAF En Route Care Research Center-US Army Institute of Surgical Research, JBSA Fort Sam Houston, TX, \(^3\)University of Cincinnati, Cincinnati, OH
MHSRS-18-0634  POSTER SESSION 2 - #279
Timing of Aeromedical Evacuation is Not Associated with the Subsequent Development of Hypertension
Presentation Author: Dr. Guillaume Hoareau
Guillaume Hoareau, PhD, DVM1, Lauren Walker, MSW2, Carl Beyer, MD3, Matthew Noble, DO4, Ian Stewart, MD1,2
1David Grant USAF Medical Center, Travis AFB, Fairfield, CA, 2Uniformed Services University of the Health Sciences, Bethesda, MD

MHSRS-18-0652  POSTER SESSION 2 - #280
Fit-to-Fly? Predicting Adverse Events in Severe Traumatic Brain Injury
Presentation Author: Dr. Angela Crawford
Angela M. Crawford, MD, Shiming Yang, PhD, Christine L. Ramirez, MD, Joseph Nehu Parimi, MD, Peter Hu, PhD, Yao Li, PhD, Thomas M. Scalea, MD, Deborah M. Stein, MD, MPH
University of Maryland, Baltimore, MD

MHSRS-18-0753  POSTER SESSION 2 - #281
Patient Handoff from Emergency Medical System Staff to Emergency Department Staff: How Are We Doing?
Presentation Author: Maj Joseph Maddry
Maj Joseph Maddry, MD1,2, Nicole Shults, BS1, Lauren K. Reeves, MsPH1, Kimberly Medellin, BSN, RN1,2, Alejandra G. Mora, MS1, Sheila C. Savell, PhD, RN1
1USAF En Route Care Research Center, JBSA, TX, 2San Antonio Military Medical Center, San Antonio, TX

MHSRS-18-0762  POSTER SESSION 2 - #282
An Evaluation of Medical Hands-Free Ultra-Wideband Broadcast (MEDHUB) as a Solution to Problems in Patient Documentation & Care Surrounding Patient Handoff from the MEDEVAC Platform to the Receiving Treatment Facility
Presentation Author: Mr. Jay Wang
Jay Y. Wang, MS1, LTC Charles C. Cook, MSPM MA1, Alexandra Cholewczynski, MS1, Tony W Hwang, PhD1, MAJ Jon R. Short, MS2, COL John J. Melvin, RN1,2, COL Mark S Ochoa, MD2
1US Army Medical Materiel Agency, Fort Detrick, MD, 244th Medical Brigade, Fort Bragg, NC

MHSRS-18-0791  POSTER SESSION 2 - #283
Lesson Learned from US Army Airworthiness Certification Testing of Commercial Off-The-Shelf (COTS) Medical Equipment
Presentation Author: Mr. Tsung Lun Yang
Chris Yang1,2, Katy Fiebel1, Bob Eshelman1, Julie Martin1,3, David Jones1
1US Army Aeromedical Research Laboratory, Fort Rucker, AL, 2Oak Ridge Institute for Science & Education, Oak Ridge, TN, 3NorthTide Group, LLC, Sterling, VA

MHSRS-18-0797  POSTER SESSION 2 - #284
Wearable Device for Remote Monitoring of Transcutaneous Tissue Oxygenation
Presentation Author: Dr. Juan Pedro Cascales
Haley L. Marks, PhD, Emmanuel Roussakis, PhD, Conor L. Evans, PhD
Wellman Center for Photomedicine, Boston, MA

MHSRS-18-0829  POSTER SESSION 2 - #285
Vibration Characterization of a Vibration Mitigating Litter System
Presentation Author: Ms. Rachel Kinsler
Rachel Kinsler, MS1, John Wurzbach BS1,2, Sandra Conti, EdD1,2
1US Army Aeromedical Research Laboratory, Fort Rucker, AL, 2NorthTide Group, LLC, Sterling, VA
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<td>The Emergency Medical Services System of Navy Medicine West</td>
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<td>Presentation Author: LT Emily Raetz</td>
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<td>LT Emily Raetz, MD(^1), Jennifer Sharp, NRP(^2), CDR Elliot Ross, MD, MPH(^3), Sean F. Peck, MEd, NRP(^4), CDR Benjamin Walrath, MD, MPH(^5)</td>
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<td>(^1)Naval Medical Center San Diego, San Diego, CA, (^2)Navy Medicine West, EMS Division, San Diego, CA, (^3)US Naval Hospital Guam, Tutuhuan, Guam, (^4)Federal Fire Department San Diego, San Diego, CA</td>
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<td><strong>MHSRS-18-0875</strong></td>
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<td>Expanding Diagnostic Blood Testing Toward Far-Forward Applications</td>
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<td>Presentation Author: Mr. Raymond Lopez</td>
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<td>Raymond Lopez, Gayatri Joshi, PhD, Haley Marks, PhD, Conor Evans, PhD</td>
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<td>Wellman Center for Photomedicine, Harvard Medical School, Massachusetts General Hospital, Charlestown, MA</td>
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<td><strong>MHSRS-18-0894</strong></td>
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<td>Delays in Care at a Stateside Military Treatment Facility: Balancing Patient Care &amp; Force Protection</td>
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<td>Presentation Author: LT Sean Nardi</td>
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<td>LT Sean Nardi, DO(^1), Brian Ferguson, DO(^1), Sean Peck MS(^1), Elliot Ross, MD(^2), Benjamin Walrath, MD(^1)</td>
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<td>(^1)Naval Medical Center San Diego, San Diego, CA, (^2)US Naval Hospital Guam, Tutuhuan, Guam</td>
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<td><strong>MHSRS-18-1001</strong></td>
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<tr>
<td>An Evaluation of Critically Ill Patients with Pulmonary Disease Evacuated from Theater via Critical Care Air Transport Teams (CCATT)</td>
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<td>Presentation Author: Capt John Hunninghake</td>
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<td>Capt John C. Hunninghake, MD(^1), Crystal A. Perez, BSN, RN(^1), Alejandra G. Mora, MS(^1), Allyson A. Araña, PhD(^1), Kimberly L. Medellin, BSN, RN(^1), Victoria J. Ganem, BSN, RN(^1), Jill D. Lear, BSN, RN(^1), Joni A. Piaciocco, ADN, RN(^1), Shelia C. Savell, PhD, RN(^1), Maj Joseph K. Maddy, MD(^1,2)</td>
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<td>(^1)USAF En route Care Research Center, JBSA-TX, (^2)San Antonio Military Medical Center, San Antonio, TX</td>
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<td><strong>MHSRS-18-1178</strong></td>
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<td>Incidence &amp; Outcomes of CCATT-Evacuated Casualties with Deep Vein Thrombosis and/or Pulmonary Embolism Transported Out of Combat Theater</td>
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<td>Presentation Author: CAPT Matthew Koroscil</td>
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<td>CAPT Matthew T. Koroscil, MD(^1), Alejandra G. Mora, MS(^1), Maj Joseph K. Maddy, MD(^1,2), Col Vikhyat Bebarta, MD(^3), Lt Col Aaron B. Holley, MD(^1)</td>
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<td>(^1)San Antonio Military Medical Center, San Antonio, TX, (^2)USAF En route Care Research Center, JBSA, TX, (^3)University of Colorado School of Medicine, Aurora, CO</td>
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<td><strong>MHSRS-18-1262</strong></td>
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<td>Moral Distress in the Critical Care Air Transport Nurse</td>
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<td>Presentation Author: Ms. Kayla Eaton</td>
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<td>Kayla Eaton(^1), Melissa Wilson, PhD, RN(^1), Col Nicole Armitage, PhD, RN(^1), John Cutcliffe, PhD, RN(^2)</td>
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<td>(^1) USAFSAM, (^2) Non-DoD Consultant</td>
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<td><strong>MHSRS-18-1307</strong></td>
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<td>En Route Care: Advancing Trauma Care Through Handoffs - An Interim Analysis of Prehospital Documentation Prior to Initiation of MIST Report</td>
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<td>Presentation Author: Maj Joseph Maddry</td>
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<td>Kimberly L. Medellin, BSN, RN(^1), Nicole M. Shults, BS(^1), Shelia C. Savell PhD, RN(^1), Crystal A. Perez, BSN, RN(^1), Alejandra G. Mora, MS(^1), Xandria E. Gutierrez, BS(^3), Lauren K. Reeves, MsPH(^4), Victoria Ganem, BSN, RN(^1), Maj Joseph Maddry, MD(^1,2)</td>
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<td>(^1) USAF En route Care Research Center, JBSA, TX, (^2)San Antonio Military Medical Center, San Antonio, TX</td>
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MHSRS-18-1563
Poster Session II - #293
Aeromedical Evacuation Registry (AER): Filling the Gap in Continuum of Care Research
Presentation Author: Ms. Darcy Mortimer
Darcy Mortimer, PhDc, RN, CCRN-K,1 Elizabeth Bridges, PhD, RN, CN5,2 Timothy Smith3
1USAF School of Aerospace Medicine, Wright Patterson AFB, OH, 2University of Washington, Seattle, WA, 3KBRwyle, Beavercreek, OH

MHSRS-18-1708
Poster Session II - #294
Towards Automated En-Route Care: Respiratory Mechanics & Leak Estimation in Noninvasive Ventilation for Open Lung Protective Ventilation in ARDS/ALI
Presentation Author: Dr. Francesco Vicario
Francesco Vicario, PhD1, William A. Truschel, BS2
1Philips Research North America, Cambridge, MA, 2Philips Respironics, Monroeville, PA

MHSRS-18-1781
Poster Session II - #295
Patients with Extremity Compartment Syndrome: A Descriptive Study of 240 Patients Aeromedically Evacuated from Theater
Presentation Author: Maj Joseph Maddry
Jill D. Lear, BSN, RN1, Crystal A. Perez, BSN, RN1, Alejandra G. Mora, MS1, Shelia C. Savell, PhD, RN1, Joni A. Paciocco, ADN, RN1, Maj Joseph K. Maddry, MD1,2
1USAF En route Care Research Center, JBSA, TX, 2San Antonio Military Medical Center, San Antonio, TX

MHSRS-18-1790
Poster Session II - #296
Magnetic Resonance Imaging & Spectroscopic Detection of Cerebral Blood Flow & Neurochemical Levels Before, During, & After Exposure to Aeromedical Evacuation-Relevant Hypobaria Following Rat Traumatic Brain Injury
Presentation Author: Dr. Gary Fiskum
Rao P Gullapalli, PhD, Su Xu, PhD, Sijia Guo, PhD, Steve Roys, MS, Catriona Miller, PhD, Boris Piskoun, BS, Julie L. Proctor, MS, Adam Puche, PhD, Gary Fiskum, PhD
University of Maryland School of Medicine, Baltimore, MD

MHSRS-18-0021
Poster Session II - #297
Military Medic eFAST Exam Performance with a Novel Ultrasound Transducer: A Prospective, Randomized, Crossover Study
Presentation Author: Dr. Jonathan Monti
Jonathan D. Monti, DSc, PA-C1, Brian Ahern, PA-C1, Michael Perreault, MD1
1Madigan Army Medical Center, Tacoma, WA, 2Henry Jackson Foundation for the Advancement of Military Medicine, Madigan Army Medical Center, Tacoma, WA

MHSRS-18-0090
Poster Session II - #298
Trend Analysis of Current Modalities for Monitoring Fluid Therapy in Patients with Large Burns: Echoing the Call for Better Resuscitation Indices
Presentation Author: Mr. Nehemiah Liu
Nehemiah Liu, MS, Leopoldo Cancio, MD, Maria Serio-Melvin, MSN, José Salinas, PhD
US Army Institute of Surgical Research, JBSA Fort Sam Houston, TX

MHSRS-18-0091
Poster Session II - #299
Predicting the Ability of Wounds to Heal Given Any Burn Size & Fluid Volume: An Analytical Approach
Presentation Author: Mr. Nehemiah Liu
Nehemiah Liu, MS1, Julie Rizzo, MD2, Beth Shields, MS1, Maria Serio-Melvin, MSN1, Robert Christy, PhD1, José Salinas, PhD1
1US Army Institute of Surgical Research, JBSA Fort Sam Houston, TX, 2Brooke Army Medical Center, JBSA Fort Sam Houston, TX
**MHSRS-18-0221**  **POSTER SESSION 2 - #300**  
**The Use of Noninvasive SpO2/Fio2 Ratio Trajectory as Predictor of Extubation Failure**  
Presentation Author: Ms. Nicole Ribeiro Marques  
Nicole Ribeiro Marques, MD1, Richard Branson, RRT2, Taylor Marion, MS1, Thuan Ho, MD3, Michael Beitzel, MD1, Michael Salter, MS1, Michael Kinsky, MD5  
1University of Texas Medical Branch, Galveston, TX, 2University of Cincinnati College of Medicine, Cincinnati, OH, 3Howard University College of Medicine, Washington, DC

**MHSRS-18-0268**  **POSTER SESSION 2 - #301**  
**Major Incident Triage & the Implementation of a New Triage Tool, the Modified Physiological Triage Tool-24 (MPTT-24)**  
Presentation Author: LCDR James Vassallo  
James Vassallo, MBBS1-3, Jason E Smith, MD1,3  
1Emergency Department, Derriford Hospital, Plymouth, UK, 2Institute of Naval Medicine, Gosport, UK, 3Centre for Defence Medicine, Medical Directorate, Birmingham, UK

**MHSRS-18-0282**  **POSTER SESSION 2 - #302**  
**Tracheal Detection Device for Combat Provider Feedback**  
Presentation Author: Ms. Corinne Nawn  
Corinne D. Nawn, BS1,2, CPT Ian L. Hudson, DO, MPH1, LTC Brian E. Souhan, PhD3, Gervey Mosquera, BS1, LTC Jon M. Robitschek, MD4, Megan B. Blackburn, PhD1  
1US Army Institute of Surgical Research, Fort Sam Houston, TX, 2Oak Ridge Institute for Science & Education, Belcamp, MD, 3US Military Academy Photonics Research Center, West Point, NY, 4San Antonio Military Medical Center, Fort Sam Houston, TX

**MHSRS-18-0355**  **POSTER SESSION 2 - #303**  
**Comparing Predictive Ability of Spatial Frequency Domain Imaging (SFDI), Laser Speckle Imaging (LSI) & Thermal Imaging to Clinical Assessment in a Swine Burn Model**  
Presentation Author: Dr. Adrien Ponticorvo  
Adrien Ponticorvo, PhD1, Rebecca Rowland, BS1, Gordon T. Kennedy, PhD1, David M. Burmeister, PhD2, Robert J. Christy, PhD2, DNicole Bernal, MD3, Anthony J. Durkin, PhD2  
1University of California, Irvine, CA, 2US Army Institute of Surgical Research, Fort Sam Houston, TX, 3UC Irvine Regional Burn Center, Orange, CA

**MHSRS-18-0477**  **POSTER SESSION 2 - #304**  
**Portable, Deployable Blood-Flow Imaging Using Laser Speckle Contrast**  
Presentation Author: Ben Lertsakdadet  
Ben Lertsakdadet1, Bruce Y. Yang1, Cody E. Dunn1, Adrien Ponticorvo1, Christian Crouzet1, Nicole Bernal1, Robert J. Christy2, Anthony J. Durkin1, Bernard Choi2  
1University of California, Irvine, Irvine, CA, 2US Army Institute of Surgical Research, Fort Sam Houston, TX

**MHSRS-18-0533**  **POSTER SESSION 2 - #305**  
**Non-Invasive Cytochrome-c-Oxidase Redox State Validation & Measurements During Hemorrhage & Resuscitation, Metabolic Poisoning & Reversal, & Inspired Oxygen Alterations**  
Presentation Author: Dr. Matthew Brenner  
Matthew Brenner, MD1, Jangwoen Lee, PhD1, David Mukai, BS1, Vikhyat C Bebarta, MD2, Marius Viseroi, MD1, Gerry Boss, MD1, Philippe Haouzi, PhD, MD4, Mayer Saidian, PhD4, Tina Saber, MD4, Tanya Burney, BS1, Sari B Mahon, PhD4  
1University of California Irvine, Irvine, CA, 2University of Colorado, Denver, CO, 3University of California San Diego, La Jolla, CA, 4Pennsylvania State University College of Medicine, Hershey, PA
MHSRS-18-0838 POSTER SESSION 2 - #306
Detection of Pleural Effusion in Ultrasound Imagery Using Deep Learning
Presentation Author: Mr. Sourabh Kulhare
Sourabh Kulhare, MS1, Xinliang Zheng, PhD1, Courosh Mehanian, PhD1, Meihua Zhu, MD, PhD2, Cynthia Gregory, PhD2, Hua Xie, MD, PhD2, James Jones, BA2, Xijun Zhang, MD2,3, Todd L. Graham, BS2, Jack Lazar, BA2, Amber Halse, BA2, Fen Wang, MD, PhD2,4, Michael Stone, MD2,5, Kenton Gregory, MD1,2, Benjamin Wilson1
1Intellectual Ventures Laboratory, Bellevue, WA, 2Oregon Health Sciences University, Portland, OR, 3The People’s Hospital of Zhengzhou University, Zhengzhou, China, 4Fudan University, Shanghai, China, 5Legacy Emanuel Medical Center, Portland, OR

MHSRS-18-0884 POSTER SESSION 2 - #307
Artificial Intelligence for Neuro ER: Give Him Blood, or Oxygen, or Spinal Tap/Medication or a Craniotomy?
Presentation Author: Dr. Rory Lewis
Rory Lewis, JD, PhD1,2, Robert Neumann MD, PhD2
1University of Colorado, Colorado Springs, CO, 2University of Colorado Hospital, Aurora, CO

MHSRS-18-1002 POSTER SESSION 2 - #308
Novel Tensor Similarity Score for Classification of Cardiac Index from ECG Signals
Presentation Author: Dr. Neriman Tokcan
Neriman Tokcan, PhD, Larry Hernandez, PhD, Harm Derksen, PhD, Gryak Jonathan, PhD, Kayvan Najarian, PhD
University of Michigan, Ann Arbor, MI

MHSRS-18-1065 POSTER SESSION 2 - #309
The Clinical Application of Noninvasive Minute Ventilation Monitor in the Perioperative Setting: Preliminary Results from Four Sites Within Kaiser Permanente Medical System
Presentation Author: Dr. Chunyuan Qiu
Chunyuan Qiu, MD, Diana LaPlace, MD, Eugene Cheng MD, Maria T. Enciso RN, Vimal Desai MD
Kaiser Permanente Baldwin Park, Baldwin Park, CA

MHSRS-18-1115 POSTER SESSION 2 - #310
Development of an Image-Photoplethysmography (iPPG)-Based System to Image the Distribution of Blood in Dental Pulp & Assess Pulp Vitality
Presentation Author: Dr. Senay Tewolde
Senay Tewolde, PhD, Justin Bequette, BS, Roy Dory, MS
NAMRU-SA, San Antonio, TX

MHSRS-18-1154 POSTER SESSION 2 - #311
Development of an Augmented Reality System for En Route Care
Presentation Author: Ms. Sena Veahey
Sena Veahey, MS1, William Baker, BS1, David Luellen, BS, MBA1, Mark Ervin, MD2, Maria Serio-Melvin, MSN, RN1, Jose Salinas, PhD1
1US Army Institute of Surgical Research, San Antonio, TX, 259 Medical Wing, San Antonio, TX
MHSRS-18-1159  POSTER SESSION 2 - #312
Machine-Learning-Enabled Decision Support System for the Identification of the Seizure Onset Zone in Drug-Resistant Epilepsy Based on High Frequency Interictal EEG Activity
Presentation Author: Dr. Sabato Santaniello
Stefan L. Sumsky, Sabato Santaniello, PhD University of Connecticut, Storrs, CT

MHSRS-18-1203  POSTER SESSION 2 - #313
Clinical Implications of Monitor Alarms: A Comparative Study on SpO2, EtCO2, & Respiratory Volume Monitoring in Perioperative Settings
Presentation Author: Dr. Chunyuan Qiu
Chunyuan Qiu, MD, Eugene Y. Cheng, MD, Diana LaPlace, MD, Vu T. Nguyen, MD, Mijin Lee-Brown, MD, Atef Morkos, MD, Maria T. Enciso, RN, Fang-Chen Hou, MD, Sally S. Yen, MD, Vimal Desai, MD
Kaiser Permanente Baldwin Park, Baldwin Park, CA

MHSRS-18-1209  POSTER SESSION 2 - #314
Perioperative Clinical Decision Effectively Influenced Through Use of Respiratory Volume Monitoring: The Pulmonary ECG
Presentation Author: Dr. Chunyuan Qiu
Chunyuan Qiu, MD, Eugene Y. Cheng, MD, Diana LaPlace, MD, Vu T. Nguyen, MD, Mijin Lee-Brown, MD, Atef Morkos, MD, Maria T. Enciso, RN, Fang-Chen Hou, MD, Sally S. Yen, MD, Vimal Desai, MD
Kaiser Permanente Baldwin Park, Baldwin Park, CA

MHSRS-18-1254  POSTER SESSION 2 - #315
Automated B-Line Scoring on Multi-Region Thoracic Sonography
Presentation Author: Ms. Laura Brattain
Laura J. Brattain, PhD, Brian A. Telfer, PhD, Andrew S. Liteplo, MD, Vicki E. Noble, MD
1MIT Lincoln Laboratory, Lexington, MA, 2Massachusetts General Hospital, Boston, MA, 3Cleveland Medical Center, Cleveland, OH

MHSRS-18-1426  POSTER SESSION 2 - #316
The Design & Doffing of Personal Protective Equipment for Healthcare Robots
Presentation Author: Dr. Kris Hauser
Tracy Lu, Haden Bader, Kris Hauser, PhD
Duke University, Durham, NC

MHSRS-18-1714  POSTER SESSION 2 - #317
Comparison of a Novel Non-Invasive Photoplethysmography Device, Capable of Continuous-Monitoring of Advanced Hemodynamic Properties, to the Existing Invasive Gold Standard Device, in a Porcine Model of Hemorrhagic Shock
Presentation Author: MAJ Dean Nachman
MAJ Dean Nachman, MD,1,2, Gal Puris, MD, Arik Eisenkraft, MD
1The Institute for Research in Military Medicine, The Hebrew University Medical School, Jerusalem, Israel, 2Internal Medicine Department A, Hadassah Hospital Ein Kerem, Jerusalem, Israel

MHSRS-18-1715  POSTER SESSION 2 - #318
Human Study of the Biobeat Photoplethysmographic Device for Non-Invasive Wireless Continuous Measurement of Blood Pressure
Presentation Author: MAJ Dean Nachman
Arik Eisenkraft1,2, MAJ Dean Nachman1
1The Institute for Research in Military Medicine, The Hebrew University Medical School, Jerusalem, Israel, 2BioBeat Technologies LTD, Kadima Zoran, Israel
Poster Session II

MHSRS-18-2015 POSTER SESSION 2 - #319
Gulf War Illness Symptom Analysis Using Machine Learning
Presentation Author: Ricardo Castellanos
Ricardo Castellanos, Nancy Klimas, Travis J.A. Craddock
Nova Southeastern University, Fort Lauderdale, FL & Miami Veterans Affairs Medical Center, Miami, FL

MHSRS-18-2106 POSTER SESSION 2 - #320
Advanced Surgical Robotics Applied to the Operational Field
Presentation Author: Dr. Gianluca De Novi
G. de Novi, PhD, Debora Botturi, PhD
XSurgical Inc

MHSRS-18-2129 POSTER SESSION 2 - #321
Clinically Relevant Threshold Levels for the Dashboard View of the Compensatory Reserve Measurement
Presentation Author: Dr. Mallory Wampler
Mallory Wampler, MD1, Michael C Johnson, MD1, Abdul Alarhayem, MD1, Victor Convertino, PhD2, Tuan Le, MD, DPH2, Kevin Chung, MD2, David Wampler, PhD1, Ronald Stewart, MD1, Mark DeRosa1, Brian Eastridge, MD1
1UT Health San Antonio, San Antonio, TX, 2US Army Institute of Surgical Research, San Antonio, TX

MHSRS-18-2172 POSTER SESSION 2 - #322
Bio-Magnetic Detection of Neuromuscular & Wound Related Injuries
Presentation Author: Mr. Jan Berkow
Triton Systems, Inc, Chelmsford, MA

ORGAN FAILURE FOLLOWING TRAUMA: ROLE OF IMMUNE MODULATION & CELL BASED THERAPIES

MHSRS-18-0166 POSTER SESSION 2 - #323
Evidence of Endogenous Distal Airway Stem Cells & Their Role in Alveolar Repair/Regeneration in Response to Smoke Inhalation Injury in Swine
Presentation Author: Dr. Qingwei Zhao
Qingwei D. Zhao, MD, PhD, MS1, Jae-Hyek Choi, PhD2, Zhangsheng Yang, DVM1, Yansong Li, MD1, Brendan M. Beely, BS2, Bryan S. Jordan, MS1, Corina Necsoiu, MD1, Daniel S. Wendorff, BS2, David M. Burmeister, PhD1, Andriy I. Batchinsky, MD1, Leopoldo C. Cancio, MD2
1US Army Institute of Surgical Research, Fort Sam Houston, TX, 2The Geneva Foundation, Tacoma, WA

MHSRS-18-0193 POSTER SESSION 2 - #324
Accurate Spesis Diagnostic Using Microfluidic Devices to Analyze Neutrophil Spontaneous Motility
Presentation Author: Dr. Daniel Irimia
Daniel Irimia, MD, PhD Massachusetts General Hospital, Boston, MA, Harvard Medical School, Boston, MA, Shriners Burns Hospital, Boston, MA

MHSRS-18-0318 POSTER SESSION 2 - #325
Long-Term Therapeutic Effect of Mesenchymal Stem Cells on Improvement of Erectile Function in a Rat Model
Presentation Author: Dr. Xin Gu
MHSRS-18-0429 POSTER SESSION 2 - #326
Early Inhibition of Complement C5 Significantly Reduces Mortality & Protects Against Multi-Organ Failure in a Clinically Relevant Model of Blast Injury & Severe Hemorrhage
Presentation Author: Dr. Yansong Li
Yansong Li, MD1, Zhangsheng Yang, PhD1, Celina A. Valdez, BS1, SGT Amber M. Woodson, BS1, SPC Pedro A. Garcia1, SPC Stacy T. Bemetskie, BS2, Peter R. Edsall, BS3, Brian J. Lund, PhD1, Crystal D. Hill-Pryor, PhD2, Michael A. Dubick, PhD1, Anthony E. Pusateri, PhD2, COL (Ret) Leopoldo C. Cancio, MD2
1US Army Institute of Surgical Research, Fort Sam Houston, TX, 2US Army Medical Research & Materiel Command, Fort Detrick, MD

MHSRS-18-0431 POSTER SESSION 2 - #327
Complement Inhibition Increases Survival & Ameliorates Multi-Organ Dysfunction in a Model of Blast Injury & Hemorrhagic Shock
Presentation Author: Dr. Yansong Li
Yansong Li, MD, Zhangsheng Yang, PhD, Brian J. Lund, PhD, Qingwei D. Zhao, PhD, MD, SPC Olawale A. Aderemi, BS, Peter R. Edsall, BS, Mark D. Espinoza, BS, Michael A. Dubick, PhD, Anthony E. Pusateri, PhD, COL (Ret) Leopoldo C. Cancio
US Army Institute of Surgical Research, Fort Sam Houston, TX

MHSRS-18-0442 POSTER SESSION 2 - #328
Development of a Clinically Relevant Trauma Model for Efficacy Evaluation of Complement Inhibitors
Presentation Author: Ms. Celina Valdez
Celina A. Valdez, BS, Zhangsheng Yang, PhD, SGT Amber M. Woodson, BS, Peter R. Edsall, BS, SPC Olawale A. Aderemi, BS, SPC Pedro A. Garcia, SPC Stacey Bemetskie, BS, Brian J. Lund, PhD, Leopoldo C. COL (Ret) Cancio, MD, Yansong Li, MD
US Army Institute of Surgical Research, Fort Sam Houston, TX

MHSRS-18-0490 POSTER SESSION 2 - #329
Short-term Hypoxia is Ideal for Mesenchymal Stem Cell Function
Presentation Author: Dr. Ben Antebi
Ben Antebi, PhD1, Kerfoot P. Walker III, MS1,2, Luis A. Rodriguez, MS1, Arezoo Mohammadipoor, DVM, PhD1,2, Leopoldo C Cancio, MD1
1US Army Institute of Surgical Research, JBSF, TX, 2Oak Ridge Institute for Science & Education, Oak Ridge, TN

MHSRS-18-0492 POSTER SESSION 2 - #330
The Effect of Acute Respiratory Distress Syndrome on Bone-Marrow Mesenchymal Stem Cells
Presentation Author: Dr. Ben Antebi
Ben Antebi, PhD1, Kerfoot P. Walker III, MS1,2, Arezoo Mohammadipoor, DVM, PhD1,2, Luis A. Rodriguez, MS1, Robbie K. Montgomery, MS1, Andriy I. Batchinsky, MD1,2, Leopoldo C Cancio, MD1
1US Army Institute of Surgical Research, San Antonio, TX, 2Oak Ridge Institute for Science & Education, Oak Ridge, TN, 3Geneva Foundation, Tacoma, WA

MHSRS-18-0493 POSTER SESSION 2 - #331
Functional Characterization of Mesenchymal Stem Cells in Low Oxygen Tensions
Presentation Author: Dr. Ben Antebi
Ben Antebi, PhD1, Luis A. Rodriguez, MS1, Kerfoot P. Walker III, MS1,2, Arezoo Mohammadipoor, DVM, PhD1,2, Leopoldo C Cancio, MD1
1US Army Institute of Surgical Research, San Antonio, TX, 2Oak Ridge Institute for Science & Education, Oak Ridge, TN

MHSRS-18-0494 POSTER SESSION 2 - #332
Mesenchymal Stem Cells (MSCs) Preconditioned with Serum Pre-Exposed to MSC Milieu Exhibit Augmented Therapeutic Properties in the Setting of Acute Respiratory Distress Syndrome
Presentation Author: Ms. Amy Xu
Amy L. Xu1,2, Kerfoot P. Walker III, MS1,3, Arezoo Mohammadipoor, DVM, PhD1,3, Luis A. Rodriguez, MS1,3, Teryn R. Roberts, MS1,4, Andriy I. Batchinsky, MD1,4, Leopoldo C. Cancio, MD1, Ben Antebi, PhD1
1US Army Institute of Surgical Research, JBSA Fort Sam Houston, TX, 2Stanford University, Stanford, CA, 3Oak Ridge Institute for Science & Education, Oak Ridge, TN, 4The Geneva Foundation, Tacoma, WA
MHSRS-18-0496  POSTER SESSION 2 - #333
The Effects of Cryopreservation on Human Bone Marrow-Derived Mesenchymal Stem Cells
Presentation Author: Ms. Amber Asher
Luis A. Rodriguez, MS, Arezoo Mohammadipoor, DVM, PhD, Robin M. Kamucheka, BS, Robbie K. Montgomery, MS, Leopoldo C Cancio, MD, Ben Antebi, PhD
US Army Institute of Surgical Research, Fort Sam, TX

MHSRS-18-0516  POSTER SESSION 2 - #334
Extracellular Vesicles Are as Potent Anti-Inflammatory Mediators as Their Mesenchymal Stem Cell Counterparts
Presentation Author: Dr. Arezoo Mohammadipoor
Arezoo Mohammadipoor, DVM, PhD1,2, Ben Antebi, PhD1, Luis A. Rodriguez II, MS1, Kerfoot P Walker III1, MS, Amber M. Asher, MA1,2, Robbie K. Montgomery, MS1, Leopoldo C. Cancio, MD1
1US Army Institute of Surgical Research, JBSA Fort Sam Houston, TX, 2Oak Ridge Institute for Science & Education, Oak Ridge, TN

MHSRS-18-0526  POSTER SESSION 2 - #335
Activity of Human Fibroblasts in Mesenchymal Stromal Cell Potency Assays
Presentation Author: Dr. Barbara Christy
Barbara A. Christy, PhD, Maryanne C. Herzig, PhD, Larry E. Estlack, BS, Christopher P. Delavan, MS, Tiffani Chance, MS, Robbie K. Montgomery, MS, Carolina Cantu, MS, Christi Salgado, BS, James Bynum, PhD, Andrew P Cap, MD, PhD
US Army Institute of Surgical Research, JBSA Fort Sam Houston, TX

MHSRS-18-0604  POSTER SESSION 2 - #336
The Effect of Hypoxia & Inflammatory Milieu on Bone Marrow Mesenchymal Stem Cells
Presentation Author: Mr. Luis Rodriguez
Luis A. Rodriguez, MS1, Robin M. Kamucheka, BS1-2, Arezoo Mohammadipoor, DVM, PhD1,2, Amber M. Asher, MA1,2, Lucero Alvarado, BS1,2, Leopoldo C Cancio, MD1, Ben Antebi, PhD1
1US Army Institute of Surgical Research, Fort Sam Houston, TX, 2Oak Ridge Institute for Science & Education, Oak Ridge, TN

MHSRS-18-0611  POSTER SESSION 2 - #337
Effect of Complement C1 Inhibition on Survival & Multi-Organ Damage After Blast Injury & Hemorrhagic Shock
Presentation Author: SPC Stacey Bernetskie
SPC Stacey Bernetskie, Zhangsheng Yang, PhD, Celina A. Valdez, BS, SGT Amber M. Woodson, BS, SPC Pedro A. Garcia, Peter R. Edsall, BS, Brian J. Lund, PhD, Crystal D. Hill-Pryor, PhD, Michael A. Dubick, PhD, Anthony E. Pusateri, PhD, COL (Ret) Leopoldo C. Cancio, MD, Yansong Li, MD

MHSRS-18-0615  POSTER SESSION 2 - #338
Effect of Late Complement C5 Blockage on Mortality & Morbidity in a Clinically Relevant Model of Blast Injury & Hemorrhage
Presentation Author: SPC Pedro Garcia
Zhangsheng Yang, PhD, Celina A. Valdez, BS, SPC Stacy T. Bernetskie, BS, SPC Jordan N. Hudson, Peter R. Edsall, BS, Brian J. Lund, PhD, Crystal D. Hill-Pryor, PhD, Michael A. Dubick, PhD, Anthony E. Pusateri, PhD, Yansong Li, MD, COL (Ret) Leopoldo C. Cancio, MD

MHSRS-18-0788  POSTER SESSION 2 - #339
The Role of Galectin-3 in Acute & Chronic Lung Injury
Presentation Author: Dr. Duncan Humphries
Duncan Humphries, PhD, Nik Hirani, MD, Adriano Rossi, PhD, Alison Mackinnon, PhD
1University of Edinburgh, Scotland, UK
MHSRS-18-0955  POSTER SESSION 2 - #340
Innate Immune Activation & Organ Injury in a Mouse Model of Polytrauma: Role of Extracellular miRNAs?
Presentation Author: Dr. Andrew Suen
Andrew Suen, MD\textsuperscript{1,2}, Sheng Wang, PhD\textsuperscript{3}, Olivia Conn, BSc\textsuperscript{4}, Lin Zou, MD PhD\textsuperscript{5}, Rosemary Kozar, MD PhD\textsuperscript{1}, Catriona Miller, PhD\textsuperscript{1-3}, Christian Lehmann, MD PhD\textsuperscript{2}, Wei Chao, MD PhD\textsuperscript{1}
\textsuperscript{1}University of Maryland School of Medicine, Baltimore MD, \textsuperscript{2}Dalhousie University, Halifax, NS, Canada, \textsuperscript{3}USAF School of Aerospace Medicine, Dayton, OH

MHSRS-18-1013  POSTER SESSION 2 - #341
Multiorgan Failure in ARDS: Effects of Adjunct Treatments on End-Organ Damage & Histological Injury Severity
Presentation Author: Dr. Jae Hyek Choi
Jae Hyek Choi\textsuperscript{1,2}, Corina Necsoiu\textsuperscript{1}, Daniel Wendorff\textsuperscript{1,2}, Bryan Jordan\textsuperscript{2}, Alexander Dixon\textsuperscript{1,2}, Kyle Sieck\textsuperscript{1,2}, Teryn Roberts\textsuperscript{1,3}, Brendan Beely\textsuperscript{1,2}, Leopoldo Cancio\textsuperscript{1}, Andriy Batchinsky\textsuperscript{1,3}
\textsuperscript{1}Geneva Foundation, Tacoma WA, \textsuperscript{2}United States Army Institute of Surgical Research, JBSA-Fort Sam Houston, TX, \textsuperscript{3}University of South Florida, Tampa, FL

MHSRS-18-1106  POSTER SESSION 2 - #342
Central Venous Administration of Mesenchymal Stem Cells Improves Oxygenation, Decreases Injury Severity & Delays ARDS
Presentation Author: Dr. Andriy Batchinsky
Andriy Batchinsky, MD\textsuperscript{1,2}, Corina Necsoiu, MD\textsuperscript{1}, Ben Antebi, PhD\textsuperscript{1}, Daniel Wendorff, BS\textsuperscript{1,2}, Bryan Jordan, RN, MS\textsuperscript{1}, Brendan Beely, RRT\textsuperscript{1,2}, Jae Hyek Choi, PhD, DVS\textsuperscript{1,2}, Teryn Roberts, MS\textsuperscript{1,3}, Christopher Rathbone, PhD\textsuperscript{4}, Arezoo Mohammadipoor, PhD, DVM\textsuperscript{1,5}, Kerfoot Walker III, MS\textsuperscript{1,5}, Jennifer McDaniel, PhD\textsuperscript{1}, Michael Dubick, PhD\textsuperscript{1}, Kevin Chung, MD\textsuperscript{1}, Leopoldo Cancio, MD\textsuperscript{1}
\textsuperscript{1}US Army Institute of Surgical Research, JBSA Fort Sam Houston, TX, \textsuperscript{2}Geneva Foundation, Tacoma, WA, \textsuperscript{3}Morsani College of Medicine, University of South Florida, Tampa, FL, \textsuperscript{4}University of Texas at San Antonio, San Antonio, TX, \textsuperscript{5}Oak Ridge Institute for Science & Education, Oak Ridge, TN, \textsuperscript{6}Brook Army Medical Center, Fort Sam Houston, TX

MHSRS-18-1143  POSTER SESSION 2 - #343
Muscle-Derived Extracellular Superoxide Dismutase Inhibits Endothelial Activation & Protects Against Multiple Organ Dysfunction Syndrome in Mice
Presentation Author: Dr. Zhen Yan
Jie Cai, Carolina Galarreta, Mitsuharu Okutsu, Zhongmin Du, Vitor Lira, Mei Zhang, Borna Mehrad, Brian Annex, Alexander Klibanov, Russell Bowler, Victor Laubach, Shayan MPeirce, Zhen Yan, PhD
University of Virginia, Charlottesville, VA

MHSRS-18-1160  POSTER SESSION 2 - #344
The Toll-Like Receptor-4 Agonist Monophosphoryl Lipid A Protects Sheep from Lung Injury & Sepsis in a Model of Cutaneous Burn & Pneumonia
Presentation Author: Dr. Edward Sherwood
Edward R. Sherwood MD, PhD\textsuperscript{1}, Julia Bohannon, PhD\textsuperscript{1}, Antonio Hernandez, MD\textsuperscript{2}, Satoshi Fukuda, MD\textsuperscript{2}, Anita Randolph, BS, BSA\textsuperscript{2}, Sandra Michael\textsuperscript{2}, Koji Ihara, MD\textsuperscript{2}, Robert A. Cox, PhD\textsuperscript{1}, Hal K. Hawkins, MD, PhD\textsuperscript{2}, David Herndon MD\textsuperscript{2}, Donald S. Prough, MD\textsuperscript{2}, Perenlei Enkhbaatar, MD, PhD\textsuperscript{2}
\textsuperscript{1}Vanderbilt University Medical Center, Nashville, TN, \textsuperscript{2}University of Texas Medical Branch, Galveston, TX

MHSRS-18-1673  POSTER SESSION 2 - #345
Controlling Post-Trauma Inflammation: The Role of TNFRSF25 Mediated Treg Expansion
Presentation Author: Dr. Louis Gonzalez
Louis Gonzalez\textsuperscript{1,2}, Louise Giffin\textsuperscript{1}, Rahul Jasuja\textsuperscript{1,2}, Jeff Hutchins\textsuperscript{1,2}
\textsuperscript{1}Heat Biologics, Durham, NC, \textsuperscript{2}Pelican Therapeutics, San Antonio, TX
MHSRS-18-1824 POSTER SESSION 2 - #346
Burn Injury Induces Activation of Circulating Myeloid-Derived Suppressor Cells
Presentation Author: Dr. Martin Schwacha
Shannon R. Scroggins, MS1, Robbie K. Montgomery, MS2, Susannah E. Nicholson, MD1, Andrew P. Cap, MD, PhD1,2, Martin G. Schwacha, PhD1
1The University of Texas Health Science Center at San Antonio, TX, 2US Army Institute of Surgical Research, JBSA Fort Sam Houston, TX

MHSRS-18-1990 POSTER SESSION 2 - #347
Immune Modulatory Biomaterials for Cell-Based Therapies
Presentation Author: Dr. Omid Veiseh
Rice University, Houston, TX & Sigilon Therapeutics, Cambridge, MA

MHSRS-18-2107 POSTER SESSION 2 - #348
RNA Inhibitors of Extracellular Histones to Prevent Multiple Organ Dysfunction Syndrome
Presentation Author: Dr. Francis Miller
Francis J Miller, MD1,2, Kevin T Urak3, Giselle N Blanco1, Li-Hsien Lin1, Beilei Lei, PhD3, Paloma H Giangrande, PhD3
1Duke University, Durham, NC, 2Veterans Administration Medical Center, Durham, NC, 3University of Iowa, Iowa City, IA

OPEN POSTER SESSION 2 - #349
ORGAN FAILURE FOLLOWING TRAUMA: RECENT ADVANCES IN CORPOREAL LIFE SUPPORT

MHSRS-18-0081 POSTER SESSION 2 - #350
Ultrastructure of Mitochondria During Normothermic Perfusion
Presentation Author: Dr. Maria Madajka-Niemeyer
Maria Madajka, PhD, Edoardo Dalla Pozza, MD, Vahe Fahradyan, MD, Eliana Duraes, MD, PhD, Hirsh Shah, BS, Sayf – Al deen Said, MD, Carlos Ordenana, MD, Majid Rezaei, MD, Antonio Rampazzo, MD, PhD, Bahar Bassiri Gharb, MD, PhD Cleveland Clinic, Cleveland, OH

MHSRS-18-0293 POSTER SESSION 2 - #351
Cell-Mediated Thrombosis in an Ex-Vivo Model & Clinical Study of Extracorporeal Life Support
Presentation Author: Dr. Andrew Meyer
Andrew D. Meyer, MD, MS1,2, Anjana Raghunath, MS1, Robin Kamucheka2, Armando Rodriguez2, Crystal Lafleur2, Michael Scherer2, Prajeed Nair, PhD2, Xiaowu Wu, MD2, Adam Meledelo PhD2, Nigel Mackman, PhD2, Andriy Batchinsky, MD, Andrew P. Cap, MD, PhD2
1University of Texas Health Science Center, San Antonio, TX, 2US Army Institute of Surgical Research, Fort Sam Houston, TX, 3University of North Carolina at Chapel Hill, NC

MHSRS-18-0475 POSTER SESSION 2 - #352
In Vivo Sheep & Rabbit Models for Evaluating Low-Fouling Zwitterionic Polymer Coatings in Artificial Lungs
Presentation Author: Mr. Rei Ukita
Rei Ukita1, Kan Wu2, Xiaojie Lin2, Neil M. Carleton1, Noritsugu Naito1, Angela Lai1, Chi Chi Do-Nguyen1, Caitlin T. Demarest1, Shaoyi Jiang2, Keith E. Cook1
1Carnegie Mellon University, Pittsburgh, PA, 2University of Washington, Seattle, WA

MHSRS-18-0639 POSTER SESSION 2 - #353
Validation of an Improvised Field Expedient Method for Renal Replacement Therapy in a Porcine AKI Model
Presentation Author: Dr. Guillaume Hoareau
Guillaume Hoareau, PhD, DVM2, Carl Beyer, MD1, Harris Kashtan, MD1, Lauren Walker, MSW1, Christopher Wilson, MD1, Andrew Wishy, DO1, Kevin Grayson, PhD, DVM1, Ian Stewart, MD1,2
1David Grant USAF Medical Center, Travis AFB, CA, 2Uniformed Services University of the Health Sciences, Bethesda, MD
**MHSRS-18-0641**  
**POSTER SESSION 2 - #354**  
A Non-Drug Approach for Treatment of Drug-Resistant Sepsis: Proof-of-Concept of a Dialysis Like Therapy in a Pre-Clinical Swine Model  
Presentation Author: Dr. Herb Bresler  
Herbert S. Bresler, PhD1, Kristopher E. Van Zandt, PhD1, Karen T. Gillum, DVM1, Oscar A. Bermeo Blanco, DVM1, Carolyn G. Fetzek, DVM1, Keith McCrea, PhD2, Kathleen A. White2, David F. De Souza3, Dennis M. Treu3, Robert Ward, PhD3, Adam K. Judd3  
1Battelle, Columbus, OH, 2ExThera Medical Corp., Martinez, CA, 3NxStage Medical, Inc, Lawrence, MA

**MHSRS-18-0932**  
**POSTER SESSION 2 - #355**  
Whole Blood Hemoperfusion to Treat Bacteremia – Clinical Trial Update  
Presentation Author: Dr. Keith McCrea  
Keith McCrea, PhD1, Robert Ward, PhD(h)2, Kathleen A. White2, Gabriele Eden MD2, Jan T. Kielstein, MD2  
1ExThera Medical Corporation, Martinez, CA, 2Academic Teaching Hospital Braunschweig, Germany

**MHSRS-18-0946**  
**POSTER SESSION 2 - #356**  
Liquid-Infused Nitric Oxide-Releasing (Linorel): A New Approach for Heparin Free Extracorporeal Life Support with Antimicrobial, Antithrombogenic & Anti-Adhesive Properties  
Presentation Author: Dr. Hitesh Handa  
Hitesh Handa, PhD1, Andriy Batchinsky, MD2,3  
1University of Georgia, Athens, GA, 2Geneva Foundation, Tacoma, WA, 3US Army Institute of Surgical Research, JBSA Ft Sam Houston, TX

**MHSRS-18-0990**  
**POSTER SESSION 2 - #357**  
Evolution of the United States Military Extracorporeal Membrane Oxygenation Transport Team  
Presentation Author: MAJ Matthew Read  
MAJ Matthew D. Read, MD1, Mauer Biscotti, MD1, Lydia C. Piper, MD1, Valerie G. Sams, MD1, Bernadette S. Elliott, RN1, Kathryn A. Neggaard, RN1, Craig R. Ainsworth, MD2, Robert J. Walter, MD1, Bradley A. Reel, MD2, Arthur R. Mielke, MD1, James H. Lantry III, MD3, Jeffry D. DellaVolpe, MD4, Andriy Batchinsky, MD5, Jeremy W. Cannon, MD6, Philip E. Mason, MD3  
1San Antonio Military Medical Center, Fort Sam Houston, TX, 2US Army Institute of Surgical Research, San Antonio, TX, 3University of Maryland School of Medicine, Baltimore, MD, 4Methodist Healthcare System, San Antonio, TX, 5Geneva Foundation, Tacoma WA, 6University of Pennsylvania & Presbyterian Medical Center, Philadelphia, PA

**MHSRS-18-0994**  
**POSTER SESSION 2 - #358**  
Tethered Liquid Perfluorocarbon Coating Prevents Thrombus Formation During 6 Hour Heparin Free Extracorporeal Circulation  
Presentation Author: Mrs. Teryn Roberts  
Teryn Roberts, MS1, Priyadarshini Singhah, MS3, Sreedevi Ande, PhD, PE4, Kyle Sieck, BS1,3, Brendan Beely1,3,4, Jae Hyek Choi, PhD, DVS1,3,4, Hitesh Handa, PhD1, Leopoldo Cancio, MD1, Andriy Batchinsky, MD1,4  
1Geneva Foundation, Tacoma, WA, 2University of South Florida, Tampa, FL, 3US Army Institute of Surgical Research, Fort Sam Houston, TX, 4University of the Incarnate Word, San Antonio, TX, 5University of Georgia, Athens, GA

**MHSRS-18-1006**  
**POSTER SESSION 2 - #359**  
Omniphobic Surface Coating Enables Heparin-Free Extracorporeal Life Support  
Presentation Author: Mrs. Teryn Roberts  
Teryn Roberts, MSc1,3, Jae-Hyek Choi, PhD, DVS1,3, Kyle Sieck, BS1,3, George Harea, BS1, Daniel Wendorff, BS1,3, Brendan Beely, RRT1,3, Vitali Karaliou, MD4, Paul Attar, PhD4, Michael Davis, MD5, Leopoldo Cancio, MD3, Andriy Batchinsky, MD1,3  
1Geneva Foundation, Tacoma, WA, 2University of South Florida, Tampa, FL, 3US Army Institute of Surgical Research, Fort Sam Houston, TX, 4Bridge Preclinical Testing Services, Inc, San Antonio, TX, 5Combat Casualty Care Research Program, Medical Research & Materiel Command, Fort Detrick, WA
MHSRS-18-1077  POSTER SESSION 2 - #360
Long-Term Outcomes of Hypothermic Ex-Situ Limb Perfusion
Presentation Author: Dr. Emre Gok
Emre Gok, MD, Robert H. Bartlett, MD, Kagan Ozer
University of Michigan, Ann Arbor, MI

MHSRS-18-1191  POSTER SESSION 2 - #361
Toward Mitigating High Risks for Soldiers: A Salivary Diagnostic Tool for Detection of Multi Organ Injury
Presentation Author: Dr. Anamika Ray
Anamika Ray1, Poulomi Roy1, Yifan Tang1, Mohammad Mushfiq1, Aynun Begum1, Maksudul Alam1, Paul Slowey2, Jason Koontz3, Uma Sampathkumaran1
1Innosense LLC, Torrance, CA, 2Oasis Diagnostics, Portland, OR, 3Defense Health Program, Frederick, MD

MHSRS-18-1247  POSTER SESSION 2 - #362
Novel Technique for Isolated In Vivo Lung Perfusion
Presentation Author: Dr. Mark Roeser
J. Hunter Mehaffey, MD, MSc, Eric J. Charles, MD, PhD, Jared Beller, MD, Zach Chancellor, MD, Ashish K. Sharma, MBBS, PhD, Dustin Money, RRT, Curtis G. Tribble, MD, Irving L. Kron, MD, Mark E. Roeser, MD
University of Virginia, Charlottesville VA

MHSRS-18-1296  POSTER SESSION 2 - #363
Combined Extracorporeal Lung & Renal Support: A Single-Center Retrospective Study
Presentation Author: Lydia Piper
CAPT David Dado, DO1, Craig Ainsworth, MD1, Valerie Sams, MD1, Matthew Read, MD1, Andriy Batchinsky, MD2, Benjamin Morrow, MD1, Mauer Biscotti, MD1, Robert Walter, MD1, Phillip Mason, MD1, & Kevin Chung, MD1
1San Antonio Military Medical Center, Ft Sam Houston, TX, 2Geneva Foundation, Tacoma WA

MHSRS-18-1448  POSTER SESSION 2 - #364
Nitric Oxide Generating Materials for the Prevention of Clot Formation & Bacterial Infection in ECLS: A Unique Approach to Coagulation & Infection Management
Presentation Author: Dr. Megan Neufeld
Megan J. Neufeld, PhD1, Teryn R. Roberts, MSc2-4, Alec Lutzke, PhD1, Bella H. Neufeld, BS1, Michael A. Meledeo, PhD4, COL Andrew P Cap, MD4, Leopoldo C. Cancio, MD4, Andriy I Batchinsky, MD2-4, Melissa M. Reynolds, PhD1
1Colorado State University, CO, 2The Geneva Foundation, Tacoma, WA, 3University of South Florida, Tampa, FL, 4US Army Institute of Surgical Research, Fort Sam Houston, TX

MHSRS-18-1469  POSTER SESSION 2 - #365
Nitric Oxide Generating Materials for the Prevention of Clot Formation & Bacterial Infection in ECLS: A Unique Approach to Coagulation & Infection Management
Presentation Author: Dr. Megan Neufeld
Megan J. Neufeld, PhD1, Teryn R. Roberts, MSc2-4, Alec Lutzke, PhD1, Bella H. Neufeld, BS1, Michael A. Meledeo, PhD4, COL Andrew P Cap, MD4, Leopoldo C. Cancio, MD4, Andriy I Batchinsky, MD2-4, Melissa M. Reynolds, PhD1.5
1Colorado State University, Fort Collins, CO, 2Geneva Foundation, Tacoma, WA, 3Morsani College of Medicine, University of South Florida, Tampa, FL, 4US Army Institute of Surgical Research, Fort Sam Houston, TX, 5School of Biomedical Engineering, Colorado State University, Fort Collins, CO

MHSRS-18-1561  POSTER SESSION 2 - #366
ECMO for the Transport & Management of a Critically Injured Service Member
Presentation Author: CPT Lydia Piper
CPT Lydia C. Piper, MD1, Valerie G. Sams, MD1, Matthew D. Read, MD1, Mauer Biscotti, MD1, Bernadette S, Elliott, RN1, Kathryn A. Negaard, RN1, Craig R. Ainsworth, MD2, Robert J. Walter, MD1, Bradley A. Reel, MD1, Arthur R. Mielke, MD1, James H. Lantry III, MD1, Jeffry D. Dellavolpe, MD1, Philip E. Mason, MD1, Jennifer Gurney, MD2
1San Antonio Military Medical Center, JBSA Fort Sam Houston, TX, 2US Army Institute of Surgical Research, JBSA Fort Sam Houston, TX,
MILITARY HEALTH SYSTEM RESEARCH SYMPOSIUM

Poster Session II

MHSRS-18-1562 POSTER SESSION 2 - #367
Indications & Outcomes for Adult Extracorporeal Membrane Oxygenation (ECMO) at a Military Referral Facility
Presentation Author: CPT Lydia Piper
CPT Lydia C. Piper, MD1, Matthew D. Read, MD1, Mauer Biscotti, MD1, Bernadette S. Elliott, RN1; Kathryn A. Negaa, RN1, Craig R. Ainsworth, MD2, Robert J. Walter, MD3, Bradley A. Reel, MD3, Arthur R. Mielke, MD1, James H. Lantry III, MD1, Jeffrey D. DellaVolpe, MD1, Kevin K. Chung, MD1, Jeremy W. Cannon, MD3, Philip E. Mason, MD1, Andriy Batchinsky, MD4, Valerie G. Sams, MD5, Lydia C. Piper, MD5, Matthew D. Read, MD5, Mauer Biscotti, MD5, Bernadette S. Elliott, RN5, Kathryn A. Negaa, RN5, Craig R. Ainsworth, MD5, Robert J. Walter, MD1, Bradley A. Reel, MD3, Arthur R. Mielke, MD5, James H. Lantry III, MD1, Jeffrey D. DellaVolpe, MD1, Kevin K. Chung, MD1, Jeremy W. Cannon, MD3, Philip E. Mason, MD1, Andriy Batchinsky, MD4, Valerie G. Sams, MD1.
1San Antonio Military Medical Center, JBSA Fort Sam Houston, TX, 2US Army Institute of Surgical Research, JBSA Fort Sam Houston, TX, 3Hospital of the University of Pennsylvania, Philadelphia, PA, 4Geneva Foundation, Tacoma, WA

MHSRS-18-1893 POSTER SESSION 2 - #368
Non-Incremental Innovation for Combat Casualty Care: Manned & Unmanned Evacuation for Polytrauma Treated with Point-of-Need Mobile Heparin-Free Extracorporeal Life Support
Presentation Author: Dr. Andriy Batchinsky
Andriy Batchinsky, MD1-3, Daniel Wendorff1,2, Brendan Beely, RRT1,2, Teryn Roberts, MS1-3, Jae Hyek Choi, PhD, DVS1-2, George Harea, BS1, Kyle Sieck, BS1, Vitali Karaliou, MD1, Jeremy Cannon, MD4, Valerie Sams, MD5, Leopoldo Cancio, MD5, Shawn Nessen, DO6, Bart Iddins, MD, DVM6, Michael Davis, MD6
1Geneva Foundation, Tacoma, WA, 2US Army Institute of Surgical Research, JBSA Ft Sam Houston, TX, 3Morsani College of Medicine, University of South Florida, Tampa, FL, 4University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA, 59th Medical Wing, Joint Base San Antonio, TX, 6US Army Medical Research & Material Command, Fort Detrick, MD

MHSRS-18-1895 POSTER SESSION 2 - #369
Oxygen Microbubbles Correct Acute Hypoxia in Rat Model of Smoke Inhalation Injury
Presentation Author: Ms. Marsha Morien
Marsha Morien1, Crystal Krause, PhD1, Keely Buesing, MD1, Nathan Bills, PhD, MBA1, Hannah Weber, MFS1, Conner Slagle, BS2, Ben Terry, PhD1,3, Mark Borden, PhD2
1University of Nebraska Medical Center, Omaha, NE, 2University of Colorado Boulder, Boulder, CO, 3University of Nebraska Lincoln, Lincoln, NE

PAIN MANAGEMENT

MHSRS-18-0059 POSTER SESSION 2 - #370
Cumulative Impact of Small Evidence-Based Strategies to Reduce Post-Anesthesia Care Unit Duration After Orthopaedic Surgery: 35,301 Minutes Saved Annually
Presentation Author: Dr. Krista Highland
Michael Patzkowski, MD1, Jeanne Patzkowski, MD1, Krista B Highland, PhD2
1Tripler Army Medical Center, Honolulu, HI, 2Uniformed Services University, Bethesda, MD

MHSRS-18-0086 POSTER SESSION 2 - #371
Comparison of Visual Analog Pain Score Reported to Physician vs Nurse
Presentation Author: 2LT Jeffrey Wake
2LT Jeffrey Wake, MS4, ATC1, Kevin D. Martin, DO2, Jeffrey P VanBuren, MS41, Laura Dawson, DO3
1RVUCOM, Parker, CO, 2Evans Army Community Hospital, Colorado Springs, CO, 3Keller Army Community Hospital, West Point, NY

MHSRS-18-0087 POSTER SESSION 2 - #372
Comparison of Visual Analog Pain Score Reported to Physician vs Nurse, Part II
Presentation Author: 2LT Jeffrey Wake
2LT Jeffrey Wake, MS4, ATC1, Kevin D. Martin, DO2, Jeffrey P VanBuren, MS41
1RVUCOM, Parker, CO, 2Evans Army Community Hospital, Colorado Springs, CO
Scrambler Therapy: Improvements in Chronic Neuropathic Pain Symptoms & Physical Health-Related Quality of Life for Military Service Members

Presentation Author: COL Ann Nayback-Beebe
COL Ann Nayback-Beebe, PhD¹, Sonya M. Arzola, MS², Tanya Panula, RN³, Brandon Goff, DO³, Anthony Johnson, MD³, Lewis Sussman, PsyD⁴, Christopher Weidlich, PhD⁴
¹WRNMMC, Bethesda, MD, ²The Geneva Foundation, Fort Sam Houston, TX, ³BAMC, Fort Sam Houston, TX, ⁴UIW, San Antonio, TX

KetaminE/Propofol Admixture “Ketofol” vs Etomidate for Intubation in the Critically Ill: KEEP PACE Randomized Clinical Trial

Presentation Author: Dr. Nathan Smischney
Nathan Smischney, MD, Wayne Nicholson, MD, PharmD, Daniel Brown, MD, PhD, Philippe Bauer, MD, PhD, Richard Oeckler, MD, PhD, Vivek Iyer, MD, Ognjen Gajic, MD, Darrell Schroeder, MS, Brian Pickering, MB, BCH
Mayo Clinic, Rochester, MN

Developing Novel Non-Opioid Analgesics for Combat Casualty Care

Presentation Author: Dr. Ken Hargreaves
Ken Hargreaves, Claudia Espitia, Matthew Hart
UT Health San Antonio, San Antonio, TX

Injectable Coolant for Targeting Peripheral Nerves for Treatment of Pain

Presentation Author: Dr. Lilit Garibyan
Lilit Garibyan, MD, PhD, Sara T. Moradi, MD, Ying Wang, MD, Martin Purschke, PhD, Sam Osseiran, Conor L. Evans, PhD, R. Rox Anderson, MD
Massachusetts General Hospital, Harvard Medical School, Boston, USA

Acetaminophen & Morphine-Induced Effects on Hepatic Enzymes in Rats with Thermal Injury

Presentation Author: Mr. David Trapolsi
David J. Trapolsi, Bopaiah P Cheppudira, Robert J Christy, MAJ. Stephen L. Crimmins
US Army Institute of Surgical Research, San Antonio Military Medical Center, Fort Sam Houston, TX

Development of Novel Long Lasting Local Analgesics for Management of Acute Pain Following Tissue Injury

Presentation Author: Dr. Ivan Tochitsky
Nick Andrews, PhD¹, Benjamin Doyle, BSc¹, Sooyeon Jo, PhD², David Roberson, PhD³, Ivan Tochitsky, PhD³, Bruce Bean, PhD³, Clifford Woolf, PhD³
¹Boston Children’s Hospital, Boston, MA, ²Harvard Medical School, Boston, MA

Physiological Analysis of Human Dorsal Root Ganglia Provides a Promising Approach to Accelerating Translational Pain Research

Presentation Author: Dr. Melissa VonDran
Melissa VonDran, PhD¹, Saboor Shad¹, Gene Kopen, PhD¹, Thomas J. Bell, PhD¹, Stephen G. Waxman, MD, PhD²,³, Sulayman Dib-Hajj, PhD²,³
¹National Disease Research Interchange, Philadelphia, PA, ²Yale School of Medicine, New Haven, CT, ³Veterans Affairs Connecticut Healthcare System, West Haven, CT
MHSRS-18-0456  POSTER SESSION 2 - #380
Use of a Pain Catastrophizing & Body Diagram Score Classification to Predict Health Care Utilization & Cost Outcomes for Musculoskeletal Pain
Presentation Author: Dr. Daniel Rhon
Daniel Rhon¹, Trevor Lentz², Steven George²
¹Brooke Army Medical Center, JBSA Fort Sam Houston, TX, ²Duke Clinical Research Institute, Durham, NC

MHSRS-18-0495  POSTER SESSION 2 - #381
Nanofiber-Based Opioid Bandages for Localized Treatment of Burn Pain
Presentation Author: Mr. Matthew Patterson
Matthew Patterson¹, Melissa Skoff¹, Jianren Mao, MD², Zerong You, PhD², Christopher Tison, PhD¹
¹Luna Innovations, Charlottesville, VA, ²Massachusetts General Hospital, Boston, MA

MHSRS-18-0536  POSTER SESSION 2 - #382
Gene Expression in Key Pain Processing Brain Regions During the Development of Chronic Neuropathic Pain
Presentation Author: Dr. Natasha Sosanya
Natasha M Sosanya, PhD¹, Raina Kumar, MS², John L. Clifford, PhD³, Emily Workman, PhD¹, Seshamalini Srinivasan, MS³, George Dimitrov, MS², Aarti Gautam, PhD³, Andrianna Walsh⁴, Roger Chavez, AS¹, Omar Alrufaiee, BS¹, Alex V Trevino, BS¹, Bopaiah P Cheppudira, PhD³, Robert J Christy, PhD¹, MAJ Stephen Crimmins, PhD³, Rasha Hammamieh, PhD³
¹US Army Institute of Surgical Research, Fort Sam Houston, TX, ²Leidos Biomed Inc, Fort Detrick, MD, ³US Army Center for Environmental Health Research, Fort Detrick, MD, ⁴Army Educational Outreach Program

MHSRS-18-0543  POSTER SESSION 2 - #383
Investigating the Role of Exosomal microRNA in the Development of Chronic Neuropathic Pain
Presentation Author: Dr. Natasha Sosanya
Natasha M Sosanya, PhD¹, SGT Jamar Daniels, BS¹, Raina Kumar, MS², John Clifford, PhD³, Roger Chavez, AS¹, George Dimitrov MS², Seshamalini Srinivasan, MS³, Aarti Gautam, PhD³, Alex V Trevino, BS¹, Bopaiah P Cheppudira, PhD³, Rasha Hammamieh, PhD³, MAJ Crimmins, PhD³, Robert J Christy, PhD¹
¹US Army Institute of Surgical Research, Fort Sam Houston, TX, ²Leidos Biomed Inc, Fort Detrick, MD, ³US Army Center for Environmental Health Research, Fort Detrick, MD

MHSRS-18-0553  POSTER SESSION 2 - #384
Relative Role of Calcitonin Gene-Related Peptide (CGRP) & Substance P (SP) in Morphine-Mediated Antinociceptive Tolerance Mechanism
Presentation Author: Dr. Bopaiah Cheppudira
Bopaiah P Cheppudira, PhD, Alex V Trevino, BS, Natasha M Sosanya, PhD, MAJ. Stephen L. Crimmins, PhD, Robert J Christy, PhD
US Army Institute of Surgical Research, San Antonio Military Medical Center, Fort Sam Houston, TX

MHSRS-18-0586  POSTER SESSION 2 - #385
Pre-Dosing Chemical Stability of Ad-Mixtures of Propofol, Ketamine, Fentanyl & Remifentanil
Presentation Author: Dr. Peter Bedocs
Peter Bedocs, MD, PhD¹,², David L Evers, PhD³, Chester C Buckenmaier, MD¹,²
¹Defense & Veterans Center for Integrative Pain Management, Henry M Jackson Foundation, Rockville, MD, ²Uniformed Services University, Bethesda, MD, ³Walter Reed National Military Medical Center, Bethesda, MD

MHSRS-18-0601  POSTER SESSION 2 - #386
Effect of Chronic Stress on Antinociceptive Tolerance in a Thermal Injury Rat Model
Presentation Author: Dr. Natasha Sosanya
Natasha M Sosanya, PhD, Sirima Tongkhuya, BS, Robert J Christy, PhD, MAJ Crimmins, PhD, Bopaiah P Cheppudira, PhD
US Army Institute of Surgical Research, JBSA Ft Sam Houston, TX
MHSRS-18-0663  POSTER SESSION 2 - #387
Using Acupuncture to Treat Complex Medical Illness
Presentation Author: Dr. Lisa Conboy
Lisa Conboy, DSc, Kai-Yin Hsu Lic Ac
New England School of Acupuncture at MCPHS, Worcester, MA

MHSRS-18-0695  POSTER SESSION 2 - #388
Sphenopalatine Ganglion Block with Bupivacaine for Refractory Migraine Using Novel Tx360 Device: A Case Study
Presentation Author: Dr. Scott Mooney
Brett Hansen, DO, Marc Husid, MD, David Wilkie, MD, Scott Mooney, PhD, ABPP
Dwight D. Eisenhower Army Medical Center, Fort Gordon, GA

MHSRS-18-0697  POSTER SESSION 2 - #389
Military Intensive Interdisciplinary Outpatient Treatment of Chronic Pain: The Eisenhower Army Medical Center Experience
Presentation Author: Dr. Scott Mooney
Mary Earwood, MD, Tammy Clark, RN, Paris McDonald, BA, Laura Dow, RT (Ret), Michele Meddings, PA-C, Rebecca Bonin, OTR/L, David Wilkie, MD, Kenneth Teuton, PharmD, Joel Raintree, MS, Scott Mooney, PhD, ABPP
Dwight D. Eisenhower Army Medical Center, Fort Gordon, GA

MHSRS-18-0918  POSTER SESSION 2 - #390
A Non-Opioid Ketamine Analog for Acute Pain Management in Deployed Locations & Other Forward, Austere & Limiting Environments
Presentation Author: Dr. Michael Palfreyman
Michael Palfreyman, PhD, DSc, Alex Nivorozhkin, PhD, Joe Blanchard, MBA, Jeffrey Sprouse, PhD
Amorsa Therapeutics, Inc, Southborough, MA

MHSRS-18-0971  POSTER SESSION 2 - #391
Evaluation of the Analgesic Efficacy of Novel Acetaminophen Analogs in a Rat Model of Thermal Injury
Presentation Author: Mr. Thomas Garza
Thomas H. Garza, BS1, David J. Trapolsi, BS1, Roger Chavez, BS1, Bopaiah P Cheppudira, PhD1, Chad Hopkins, PhD2, Kevin Bunker, PhD2, Robert J Christy, PhD1, MAJ. Stephen L. Crimmins, PhD1
1US Army Institute of Surgical Research, Fort Sam Houston, TX, 2Kalyra Pharmaceuticals, Inc, San Diego, CA

MHSRS-18-1007  POSTER SESSION 2 - #392
Assessing Practice Pattern Differences in the Treatment of Acute Low Back Pain in the United States Military Health System
Presentation Author: CDR Erich Dietrich
Erich Dietrich, PhD1, Todd Leroux, PhD1, Carla Santiago, MHAP2, Patrick Richard, PhD1, Tracey Koehlmoos, PhD, MHA1
1Uniformed Services University of the Health Sciences, Bethesda, MD, 2Naval Medical Research Unit Three, Cairo, Egypt

MHSRS-18-1047  POSTER SESSION 2 - #393
Percutaneous Peripheral Nerve Stimulation (PNS) Reduces Pain & Disability in Chronic Low Back Pain (LBP)
Presentation Author: Col Steven Cohen
Col Steven P Cohen, MD1,2, Anthony R. Plunkett, MD3, Steven R. Hanling, MD4, Leonardo Kapural, MD, PhD5, Christopher A. Gilmore, MD6, Meredith J. McGee, PhD6, Joseph W. Boggs, PhD6
1Walter Reed National Military Medical Center, Bethesda, MD, 2Johns Hopkins School of Medicine, Baltimore, MD, 3Womack Army Medical Center, Fort Bragg, NC, 4Augusta University, Augusta, GA, 5Center for Clinical Research, Winston Salem, NC, 6SPR Therapeutics, Chapel Hill, NC
MHSRS-18-1147  POSTER SESSION 2 - #394
Protective Associations of Complementary & Integrative Health Modalities in the Military Health System with Opioid-Related Adverse Outcomes in the Veterans Health Administration in Service Members with Chronic Pain After OEF/OIF/OND Deployment
Presentation Author: Dr. Esther Meerwijk
Esther L. Meerwijk, PhD, MSN1, Eric M. Schmidt, PhD1, Rachel Sayko Adams, PhD, MPH2, Mary Jo Larson, PhD, MPA2, Mark R. Bauer, MD2, Grant A. Ritter, PhD2, Alex H. Harris, PhD, MS2
1VA Palo Alto Health Care System, Menlo Park, CA, 2Brandeis University, Waltham, MA

MHSRS-18-1195  POSTER SESSION 2 - #395
Peripheral Neuroinflammation Targeted Non-Opioid Local Analgesic Platform for Acute Neuropathic Pain
Presentation Author: Dr. Matthew Wordsworth
Matthew J. Wordsworth, MA, MRCS, DMCC1,2, Lu Liu2, Shannon Loftus3, Michele L. Herneisey3, Margaux Salas1, Vijay S. Gorantla1-4, Erik K. Weitzel1, Jelena M. Janjic3
159th Medical Wing, Lackland AFB, TX, 2Royal Centre for Defence Medicine, Birmingham, UK, 3Duquesne University, Pittsburgh PA, 4Wake Forest University School of Medicine, Winston Salem, NC

MHSRS-18-1245  POSTER SESSION 2 - #396
Early Results: FA-rhNGF, a Glucocorticoid Modified for Intraneuronal Targeting, May Reduce Acute Pain After Spinal Nerve Injury When Delivered Intrathecally
Presentation Author: Dr. Stephen Kahl
Stephen B. Kahl, PhD1, Edgar T. Walters, PhD2
1Manzanita Pharmaceuticals, Inc, Woodside, CA, 2University of Texas Health Science Center, Houston, TX

MHSRS-18-1351  POSTER SESSION 2 - #397
Pre-Clinical Development of a Non-Opioid, Non-Hepatotoxic Analgesic for Pain Management
Presentation Author: Dr. Chad Hopkins
Chad D. Hopkins, PhD1, Kevin D. Bunker, PhD1, Robert J. Christy, PhD2, MAJ Stephen L. Crimmins, PhD2, Naemi Regan3, Kelly Eddinger3, Tony L. Yaksh, PhD3
1Kalyra Pharmaceuticals, Inc, San Diego, CA, 2US Army Institute of Surgical Research, JBSA Fort Sam Houston, TX, 3University of California, San Diego, San Diego, CA

MHSRS-18-1390  POSTER SESSION 2 - #398
Percutaneous Peripheral Nerve Stimulation for the Treatment of Chronic Post-Amputation Pain
Presentation Author: COL Steven Cohen
COL Steven P. Cohen1, Richard L. Rauck2, Christopher A. Gilmore2, Denise D. Lester3, Robert J. Trainer3, Leonardo Kapural4, James M. North2, Nathan D. Crosby4, Amom Wongassarnpigoon4, Meredith J. McGee4, Joseph W. Boggs4
1Walter Reed National Military Medical Center, Bethesda, MD, 2Center for Clinical Research, Winston-Salem, NC, 3Hunter Holmes McGuire VA Medical Center, Richmond, VA, 4SPR Therapeutics, Chapel Hill, NC

MHSRS-18-1399  POSTER SESSION 2 - #399
Sacroiliac Joint Dysfunction as a Major Cause of Chronic Low Back Pain
Presentation Author: Dr. Clarence Nicodemus
Clarence Nicodemus, DO, PhD, Alla Skorski, PhD, Kathryn Edwards, BS
Michigan State University, East Lansing, MI

MHSRS-18-1483  POSTER SESSION 2 - #400
Testosterone Decreases Sensitivity to Pain: “The Male Warrior Triad”
Presentation Author: Mr. Jeffrey Student
Jeffrey Student, BS, Ryan Woodman, MD, Warren Lockette, MD
University of Missouri, Columbia, MO
**MHSRS-18-1514**  **POSTER SESSION 2 - #401**  
Non-Pharmacological Pain Management Using Noninvasive Neuromodulation Technology  
Presentation Author: Mr. Richard Hanbury  
Richard Hanbury, MBA, BA(Hons)¹, Brad Chedister, BS, MS², Philippe A. Souvestre, MD, CES, CEA/PhD, FAsMA³  
¹Sana Health Inc, San Anselmo, CA, ²Draper Laboratory, Cambridge, MA, ³NeuroKinetics Health Services, Inc, Vancouver, BC

**MHSRS-18-1595**  **POSTER SESSION 2 - #402**  
Presentation Author: CPT Rowan Sheldon  
CPT Rowan Sheldon, MD, Jessica Weiss, MD, Woo Do, MD, Dominic Forte, MD, Vance Sohn, MD  
Madigan Army Medical Center, Tacoma, WA

**MHSRS-18-1624**  **POSTER SESSION 2 - #403**  
Discovery of Selective Inhibitors of Nav1.7 That Are Analgesic in an Animal Model of Acute Thermal Pain  
Presentation Author: Dr. John Mulcahy  
John Mulcahy, PhD¹, Anton Delwig, PhD², Hassan Pajouhesh, PhD³, Jacob Beckley, PhD³, Dennis Monteleone, PhD¹, Xiang Zhou, PhD¹, Justin Du Bois, PhD², David Yeomans, PhD²  
¹SiteOne Therapeutics Inc, Bozeman, MT & South San Francisco, CA, ²Stanford University, Stanford, CA

**MHSRS-18-1691**  **POSTER SESSION 2 - #404**  
Targeted Nanomedicine Platforms for Local Non-Opioid Analgesia in Post-Operative Neuropathic Pain  
Presentation Author: Dr. Jelena Janjic  
Jelena M. Janjic¹, Vijay S. Gorantla²,³, Erik K. Weitzel²  
¹Duquesne University, Pittsburgh, PA, ²59th Medical Wing, Lackland AFB, TX, ³Wake Forest University School of Medicine, Winston Salem, NC

**MHSRS-18-1974**  **POSTER SESSION 2 - #405**  
Novel Opioid-Like Peptides for Intranasal Delivery to Brain  
Presentation Author: Dr. Predrag Cudic  
Brandon Williams¹, Ramanjaneyulu Rayala¹, Shahayra A. Majumder², Shainnel O. Eans², Heather Stacy², Thomas J. Cirino², Jay P. McLaughlin², Predrag Cudic, PhD¹  
¹Florida Atlantic University, Jupiter, FL, ²University of Florida, Gainesville, FL

**MHSRS-18-2007**  **POSTER SESSION 2 - #406**  
Towards Identification of Patients at Risk for Opioid-Induced Respiratory Depression  
Presentation Author: Mr. Alex Rittel  
Alex Rittel, MPH, Lee Ann Zarzabal, MS, Emily Workman, PhD, Jacob Dunham, MS, Emily Stone, PhD, Alan Sim, PhD  
DHA/SDD/EIDS, San Antonio, TX

**MHSRS-18-2059**  **POSTER SESSION 2 - #407**  
Discovery of Novel Acetaminophen Analogs with No Hepatotoxicity & Retained Analgesia & Antipyresis: Lack of NAPQI Formation Explains Safety Profile  
Presentation Author: Dr. Nicolas Bazan  
Nicolas G. Bazan, MD, PhD¹,²,³, Suryadipta Bhattacharjee, PhD², Jessica Heap, BS³, Bokkyoo Jun, PhD³, Herman A. Bazan, PhD²,³  
¹LSU Health New Orleans, New Orleans, LA, ²South Rampart Pharma, LLC, New Orleans, LA, ³Ochsner Clinic, New Orleans, LA

**MHSRS-18-2105**  **POSTER SESSION 2 - #408**  
Five Year Trajectories of Pain & Pain Treatment in Post-9/11 Veterans  
Presentation Author: Dr. Mary Jo Pugh  
Mary Jo Pugh, PhD¹,², Kangwon Song, PharmD³, Carlos Jaramillo, MD, PhD³,⁴, Blessen Eapen, MD³,⁴, Cindy McGeary, PhD⁴, Jennifer S. Potter, PhD⁴, Donald McGeary, PhD⁴, Chen-Pin Wang⁴  
¹VA Salt Lake City Health Care System, Salt Lake City, UT, ²University of Utah School of Medicine, Salt Lake City, UT, ³South Texas Veterans Health Care System, San Antonio, TX, ⁴University of Texas Health Science Center San Antonio, San Antonio, TX
MHSRS-18-2126  POSTER SESSION 2 - #409
A Retrospective Study of the Effectiveness of Sphenopalatine Ganglion (SPG) Block on Headache Relief in the Active Duty & Veteran Population with a History of Mild Traumatic Brain Injury (mTBI) & Cranial Neuralgia
Presentation Author: Mrs. Angela Sutherland
Angela Sutherland, MPH, Oluwaseye Alabi, DO, CAQSM, Tabitha Alverio, MA
1Naval Medical Center, Camp Lejeune, NC

MHSRS-18-2186  POSTER SESSION 2 - #410
Towards Use of Focused Ultrasound as a Non-Invasive & Blinded Means of Tracking Pain Management
Presentation Author: Dr. Pierre Mourad
University of Washington, Seattle, WA

ALTERNATIVE, NON-PHARMACOLOGICAL, & REHABILITATION MANAGEMENT OF CONCUSSION/MILD TBI

MHSRS-18-0080  POSTER SESSION 2 - #411
Subtypes of Concussion - Evidence to Support Clinical Profiles
Presentation Author: Dr. Angela Lumba-Brown
Angela Lumba-Brown, MD, Avtar Lal, Joshua Bloom, David Brody, Jim Chesnutt, Michael Collins, Anthony Kontos, Allen Sills, Jamshid Ghajar
Stanford University, Stanford, CA

MHSRS-18-0270  POSTER SESSION 2 - #412
Quality of Sleep in Caregivers of Service Members & Veterans with Traumatic Brain Injury
Presentation Author: Dr. Bridget Cotner
Bridget A. Cotner, PhD, Noelle E. Carozzi, PhD, Rael Lange, PhD, Lou French, PhD, Danielle R. O’Connor, MA, MPH, Risa Nakase-Richardson, PhD, Tracey Brickell, PhD
1James A Haley Veterans Hospital, Tampa, FL, 2University of South Florida, Tampa, FL, 3University of Michigan, Ann Arbor, MI, 4Defense & Veterans Brain Injury Center & Walter Reed National Military Medical Center, Bethesda, MD

MHSRS-18-0272  POSTER SESSION 2 - #413
Caregiver Quality of Life Following Veteran & Service Member TBI: VA TBI Model System Study
Presentation Author: Dr. Bridget Cotner
Bridget A. Cotner, PhD, Danielle R. O’Connor, MA, MPH, Risa Nakase-Richardson, PhD, FACRM
1James A Haley Veterans Hospital, Tampa, FL, 2University of South Florida, Tampa, FL

MHSRS-18-0345  POSTER SESSION 2 - #414
The Functional Status Examination as a Measure of Functional Status Following Mild Traumatic Brain Injury
Presentation Author: Mr. Evan Zahniser
Evan Zahniser, MA, Nancy Temkin, PhD, Joan Machamer, MA, Geoffrey Manley, PhD, Lindsay Nelson, PhD, Sureyya Dikmen, PhD
1University of Washington, Seattle, WA, 2University of California San Francisco, San Francisco, CA, 3Medical College of Wisconsin, Milwaukee, WI
MHSRS-18-0379  POSTER SESSION 2 - #415
Veteran & Service Members’ Access to Rehabilitation Services
Presentation Author: Dr. Bridget Cotner
Bridget A. Cotner, PhD1,2, Danielle O’Connor, MA, MPH1, Marc A. Silva, PhD1, Christina Dillahunt-Aspillaga, PhD1,2, Racine M. Brown, PhD1, Risa Nakase-Richardson, PhD1,2
1James A Haley Veterans Hospital, Tampa, Florida, 2University of South Florida, Tampa, Florida

MHSRS-18-0401  POSTER SESSION 2 - #416
White Matter Hyperintensities & Mild TBI in Post-911 Veterans & Service Members
Presentation Author: Dr. Harvey Levin
Harvey S. Levin, PhD1,2, Elisabeth A. Wilde, PhD1,3, Barry Eggleston, PhD4, Shawn Hirsh, PhD4, Rajan Agarwal, MD1, Jorge de Villasante, MD5, Aaron Betts, MD6, Michael Lennon, MD7, Gerald E. York, MD8, Timothy Duncan, MD9, Jennifer Nathan, MD10, Brian Taylor, PhD11, Tracy Abidaskov11, Erin Bigler, PhD12, David F. Tate, PhD12, Mary Newsome1,2, Garrett Black1,2, Randall S. Scheibel, PhD1,2, Carlos Jaramillo, MD1,2, Blessen C. Eapen, MD1,3, Heather G. Belanger, PhD1, William Walker, MD7
1Michael E. De Bakey Veterans Affairs Medical Center, Houston, TX, 2Baylor College of Medicine, Houston TX, 3University of Utah, Salt Lake City, UT, 4RTI International, Research Triangle, NC, 5James Haley Veterans Hospital, Tampa FL, 6Brooke Army Medical Center, San Antonio TX, 7Virginia Commonwealth University, Richmond, VA, 8Alaska Radiology Associates, Anchorage, AK, 9Portland Veterans Hospital, Portland, OR, 10Johns Hopkins Medical School, Baltimore, MD, 11Brigham Young University, Provo, UT, 12University of Missouri-St Louis, St Louis, MO, 13South Texas Veterans Health Care System, San Antonio, TX

MHSRS-18-0468  POSTER SESSION 2 - #417
Executive Functioning in Individuals with Mild Traumatic Brain Injury is Enhanced by Daily Morning Blue Light Therapy
Presentation Author: LTC William Killgore
University of Arizona, Tucson, AZ

MHSRS-18-0486  POSTER SESSION 2 - #418
This Isn't Just TBI: Clinical Health Outcomes of Traumatic Brain Injury Care in Europe
Presentation Author: Dr. Kendra Jorgensen-Wagers
Kendra Jorgensen-Wagers, PhD1, Stephanie Maxfield-Panker, PhD2, Brian Brown2, Dawn Collins, MA2, Bilal Khokar, PhD3, Juan Rivera, MD1
1Landstuhl Regional Medical Center, Landstuhl, Germany, 2Regional Health Command Europe, Sembach, Germany, 3Defense & Veterans Brain Injury Center, Silver Spring, MD

MHSRS-18-0497  POSTER SESSION 2 - #419
Medical Utilization of Traumatic Brain Injury Care in Europe
Presentation Author: Dr. Kendra Jorgensen-Wagers
Kendra Jorgensen-Wagers, PhD1,3, Stephanie Maxfield Panker2, PhD, Brian Brown2, Dawn Collins, MA2, Bilal Khokar, PhD3, Juan Rivera, MD1
1Landstuhl Regional Medical Center, Landstuhl, Germany, 2Regional Health Command Europe, Sembach, Germany, 3Defense & Veterans Brain Injury Center, Silver Spring, MD

OPEN  POSTER SESSION 2 - #420

MHSRS-18-0585  POSTER SESSION 2 - #421
Using Driving Simulators to Measure Key Functional Abilities of Concussed Drivers
Presentation Author: Dr. Johnell Brooks
Johnell O. Brooks, PhD1, Casey Jenkins2, Breno Schwambach, MS1, Lauren Mims, MS1, Robert Prucka, PhD1, Patrick Rosopa, PhD1, Katie Brown1, Douglas F. Evans, MS2, Ken Melnirck2, Joseph S. Neczek, MS, RKT, CDRS3, Roger Kelsch, RKT, CDRS3, Nicole Trippedo, ATC4, Molly Anderson, ATC4, John Lucas IV, MD4
1Clemson University, Clemson, SC, 2DriveSafety, Murray, UT, 3Edward Hines, Jr. VA Hospital, Hines, IL, 4Spartanburg Regional Healthcare System, Spartanburg, SC
MHSRS-18-0587  POSTER SESSION 2 - #422
Implementation of a Generalized Vestibular Rehabilitation Approach
Presentation Author: Ms. Megan Loftin
Megan Loftin, MS¹, Jorge Arango, MD¹, Candace Pearson, RN¹, LCDR Selena BoBula, DPT², Robin Cornwell, PhD¹, CDR Renee Pazdan, MD², CAPT Alicia Souvignier, DPT²
¹Department & Veterans Brain Injury Center, Fort Carson, CO, ²US Public Health Service, Fort Carson, CO

MHSRS-18-0632  POSTER SESSION 2 - #423
Feasibility Study of a Novel Neurofeedback Rehabilitation Protocol for TBI Related Symptoms
Presentation Author: Dr. Robin Elisabeth Cornwell
R. Elisabeth Cornwell, PhD¹, Candace Hill-Pearson, RN¹, Renee M Pazdan, MD¹,², Alicia R. Souvignier, DPT¹,², Jorge I Arango, MD¹
¹Defense & Veterans Brain Injury Center, Fort Carson, CO, ²Warrior Recovery Center, Evans Army Community Hospital, Fort Carson, CO

MHSRS-18-0656  POSTER SESSION 2 - #424
The Relationship Between Repetitive Mild Traumatic Brain Injury & Balance Performance, a Chronic Effects of Neurotrauma Consortium (CENC) Multi-Center Observational Study Interim Analysis
Presentation Author: Dr. William Walker
William C. Walker, MD¹, Kayla Nowak², Kimbra Kenney, MD³, Laura Manning Franke, PhD⁴, Blessen C. Eapen, MD⁵, Karen Skop⁶, Harvey S. Levin, PhD⁷, Amma A. Agyemang, PhD⁷, David F. Tate PhD⁷, Elisabeth A. Wilde PhD⁷, Sidney Hinds MD⁹, Shawn Hirsch, MS², Tracy Nolen, PhD²
¹Virginia Commonwealth Univ., Richmond, VA, ²RTI International, Research Triangle Park, NC, ³Uniformed Services University of the Health Sciences, Bethesda, MD, ⁴Hunter Holmes McGuire VA Medical Center, Richmond, VA, ⁵South Texas Veterans Health Care System, San Antonio, TX, ⁶James A. Haley Veteran’s Hospital, Tampa, FL, ⁷Baylor College of Medicine, Houston, TX, ⁸University of Missouri Saint Louis/Missouri Institute of Mental Health, St. Louis, MO, ⁹US Army Medical Research & Material Command, Fort Detrick, MD

MHSRS-18-0689  POSTER SESSION 2 - #425
Patient Activation in Military Rehabilitation Settings for Chronic Post-War Related Symptoms
Presentation Author: Dr. Scott Mooney
John Rigg, MD, Joel Raintree, MS, Scott Mooney, PhD, ABPP
Dwight D. Eisenhower Army Medical Center, Fort Gordon, GA

MHSRS-18-0713  POSTER SESSION 2 - #426
The Dynamics of Human Physiological Sleepiness in Response to 40 H Continuous Wakefulness Remains Unchanged Following Brain Insult
Presentation Author: CPT Allison Brager
Courtney Campbell, BS¹, Antigone Grillakis, BS¹, Janna Mantua, PhD¹, Vincent F. Capaldi II, MD¹, Angela Yarnell, PhD², CPT Allison Brager, PhD¹
¹Walter Reed Army Institute of Research, Silver Spring, MD, ²West Point Military Academy, West Point, NY

MHSRS-18-0733  POSTER SESSION 2 - #427
Role of Adrenergic Signaling in the Skeletal Response to Low-Intensity Repetitive Blast Injury
Presentation Author: LCDR Joshua Swift
LCDR JM Swift¹, A Hall¹, H Zhou¹, D Brown², MR Allen²
¹Naval Medical Research Center, Silver Spring, MD, ²Indiana University School of Medicine, Indianapolis, IN
MHSRS-18-0818  POSTER SESSION 2 - #428
Greater Activity Participation in Later Stages of Concussion Recovery May Enhance Symptom Resolution Among an Active Duty Military Population
Presentation Author: Dr. Rosemary Remigio-Baker
Rosemary A. Remigio-Baker, PhD, MPH1,3, Jason Bailie, PhD1,2,4, Emma Gregory, PhD1,4, Wesley R. Cole, PhD1,4,6, Karen L. McCulloch, PT, PhD1,7, Amy Cecchini, PT, DPT6, Keith Stuessi, MD1,2,4, Taylor R. Andrews, BA, LCDR1,2,4. Lynita Mullins DO, MC, USN1,3, Mark Ettenhofer, PhD1,5,8
1 Defense & Veterans Brain Injury Center, Silver Spring, MD, 2 Naval Hospital Camp Pendleton, Camp Pendleton, CA, 3 Venesco LLC, Chantilly, VA, 4 General Dynamics Health Solutions, Silver Spring, MD, 5 Naval Medical Center San Diego, San Diego, CA, 6 Womack Army Medical Center, Fort Bragg, NC, 7 The University of North Carolina at Chapel Hill, Chapel Hill, NC, 8 American Hospital Services Group LLC

MHSRS-18-0844  POSTER SESSION 2 - #429
Concordance Between the Rivermead Post-Concussion Symptoms Questionnaire vs Sport Concussion Assessment Tool 5 in Hospital & Athlete Samples
Presentation Author: Ms. Alexa Wild
Alexa Wild, BA, Michael A. McCrea, PhD, Lindsay D. Nelson, PhD
Medical College of Wisconsin, Milwaukee, WI

MHSRS-18-0866  POSTER SESSION 2 - #430
Rehabilitation Trajectories of Combat Wounded Veterans with Traumatic Brain Injury.
Presentation Author: Dr. Kris Siddjarthan
James A Haley Veterans Hospital, Tampa, FL

MHSRS-18-0966  POSTER SESSION 2 - #431
Sway Velocity: Implications for Post-Concussion Balance Recovery in Collegiate Athletes Using the Sensory Evaluation Test
Presentation Author: Dr. Meng Ni
Meng Ni, PhD, Joseph B. Hazzard, EdD, Sam Meske, MS
Bloomsburg University of Pennsylvania, Bloomsburg, PA

MHSRS-18-1019  POSTER SESSION 2 - #432
Prevalence of Clinically Significant MRI Findings in Athletes with & Without Sport-Related Concussion
Presentation Author: Dr. Joshua Bonis
Joshua M. Bonis MD, PhD1, Andrew P. Klein, MD1, Julie E. Tetzlaff, PhD1, Lindsay D. Nelson, PhD1, Andrew R. Mayer, PhD2, Daniel L. Huber, MS1, Jaroslaw Harezlak, PhD2, Vincent P Mathews, MD1, John L. Ulmer, MD1, Grant P Sinson, MD1, Andrew S. Nencka, PhD1, Kevin M. Koch, PhD1, Yu-Chien Wu, MD, PhD4, Andrew J. Saykin, PsyD2, Steven P. Broglio, PhD2, Thomas Mcaallister, MD4, Michael A. McCrea, PhD1, Timothy B. Meier, PhD1, CARE Consortium Investigators
1 Medical College of Wisconsin, Milwaukee, WI, 2 Mind Research Network, Albuquerque, NM, 3 Indiana University, Bloomington, IN, 4 Indiana University School of Medicine, Indianapolis, IN, 5 University of Michigan, Ann Arbor, MI

MHSRS-18-1044  POSTER SESSION 2 - #433
Functional Amnesia in Military Medical Settings: A Case Study of Successful Treatment
Presentation Author: Lt Jonathan Murphy
Lt Jonathan Murphy, MS, Devon Johnson, MD
Naval Medical Center Portsmouth, Portsmouth, VA

MHSRS-18-1051  POSTER SESSION 2 - #434
Rates & Characteristics of Attrition in Longitudinal TBI Research: VA TBI Model Systems Study
Presentation Author: Erin Brennan
Erin M. Brennan, BA1,2, Amanda Royer, BA1,3, Marc A. Silva, PhD1,2,4, M. Brad Rechkemmer, MPH1, Risa Nakase-Richardson, PhD1,2,4
1 James A. Haley Veterans’ Hospital, Tampa, FL, 2 University of South Florida, Tampa, FL, 3 Line LLC, Tampa, FL, 4 Defense & Veterans Brain Injury Center, Tampa, FL
MHSRS-18-1076 POSTER SESSION 2 - #435
Symptom Validity Screening & Mild Traumatic Brain Injury in a Non-Treatment Seeking Veteran Sample
Presentation Author: Dr. Casey Gilmore
Casey S. Gilmore, PhD1,2, Greg J. Lamberty, PhD2,3, Nathaniel W. Nelson, PhD2,4, Kelvin O. Lim, MD1,2,3
1Defense & Veterans Brain Injury Center, Minneapolis, MN, 2Minneapolis VA Medical Center, Minneapolis, MN, 3University of Minnesota, Minneapolis, MN, 4University of St. Thomas, Minneapolis, MN

MHSRS-18-1078 POSTER SESSION 2 - #436
Feasibility Assessment of a Flexible Outcome Assessment Battery for Use in Longitudinal TBI Research
Presentation Author: Dr. Yelena Bodien
Yelena G Bodien, PhD1,2, Mark Sherer, PhD1,4, Sabrina R Taylor, PhD5, Sureyya Dikmen, PhD6, John K Yue, BA5, Murray Stein, MD7, John D Corrigan, PhD8, Harvey Levin, PhD4, Nancy Temkin, PhD9, Joan Machamer, MA6, Kim Boase, BA6, Mary Vassar, RN, MS9, Michael McCrea, PhD9, Thomas McAllister, MD10, John Whyte, MD, PhD11, Joel H Kramer, PsyD5, Laura Ngwenya, MD, PhD12, Geoffrey T Manley, MD, PhD9, Joseph T Giacino, PhD2, TRACK-TBI Investigators
1Massachusetts General Hospital, Harvard Medical School, Boston, MA, 2Spaulding Rehabilitation Hospital, Harvard Medical School, Charlestown, MA, 3TIRR Memorial Hermann, Houston, TX, 4Baylor College of Medicine, Houston, TX, 5University of California, San Francisco, CA, 6University of Washington, Seattle WA, 7University of California, San Diego, CA, 8The Ohio State University, Columbus OH, 9Medical College of Wisconsin, Milwaukee, WI, 10University of Indiana School of Medicine, Indianapolis, IN, 11Moss Rehabilitation Research Institute, Elkins Park, PA, 12University of Cincinnati, Cincinnati OH

MHSRS-18-1096 POSTER SESSION 2 - #437
Functional Status Examination in Patients with Moderate to Severe Traumatic Brain Injuries
Presentation Author: Dr. Nancy Temkin
Joan Machamer, MA1, Nancy R. Temkin, PhD1, Geoffrey T. Manley, MD2, Sureyya Dikmen, PhD1
1University of Washington, Seattle, WA, 2University of California San Francisco & Zuckerberg San Francisco General Hospital, San Francisco, CA

MHSRS-18-1120 POSTER SESSION 2 - #438
White-Matter Abnormalities in Sport-Related Concussion: A Longitudinal Study of Diffusion Magnetic Resonance Imaging from the NCAA-Dod CARE Consortium
Presentation Author: Dr. Yu-Chien Wu
Yu-Chien Wu, PhD1, Sourajit Mitra Mustafi, PhD1, Jaroslav Harezlak, PhD2, Kevin M. Koch, PhD3, Andrew S. Neenka, PhD3, Timothy B. Meier, PhD3, John D. West, MS4, Christopher C. Giza, MD4, John P DiFiori, MD4, Kevin M. Guskiewicz, PhD5, Jason P Mihalik, PhD6, Stephen M. LaConte, PhD6, Stefan M. Duma, PhD6, Steven P Broglio, PsyD7, Andrew J. Saykin, PsyD7, Michael McCrea, PhD8, Thomas W. McAlliste, MD1
1Indiana University School of Medicine, Indianapolis, IN, 2Indiana University, Bloomington, IN, 3Medical College of Wisconsin, Milwaukee, WI, 4David Geffen School of Medicine at University of California Los Angeles, Los Angeles, CA, 5University of North Carolina, Chapel Hill, NC, 6Wake-Forest & Virginia Tech University, Roanoke, VA, 7University of Michigan, Ann Arbor, MI

MHSRS-18-1126 POSTER SESSION 2 - #439
Effects of Motion-Based Gaming on Day-to-Day Activity, Cognitive Processing Speed, Executive Functioning, & User Experience During Physical Therapy in Veteran Mild Traumatic Brain Injury Patients
Presentation Author: Sai Yalla
Sai V Yalla, PhD1, Vasanth Subramanian, MS1, Bharathi Swaminathan, MD2, William Cotter, MD2, Ravi Shah, PsyD3, Cynthia Putnam, PhD4, Amanda F Lin, DSc1
1Rosalind Franklin University of Medicine & Science, North Chicago, IL, 2Captain James A. Lovell Federal Health Care Center, North Chicago, IL, 3Adler School of Professional Psychology, Chicago, IL, 4DePaul University, Chicago, IL
**Central Sensorimotor Integration Test: Test-Retest Reliability & Learning Effects**

**Presentation Author:** Dr. Lucy Parrington

Lucy Parrington, PhD,1,2 Nicholas Kreter, BS,1,2 Peter C. Fino, PhD1,2, Robert J. Peterka, PhD2,3, Laurie A. King, PhD1,2
1Oregon Health & Science University, Portland, OR, 2VA Portland Health Care System, Portland, OR, 3National Center for Rehabilitative Auditory Research, VA Portland Health Care System, Portland, OR

**Predicting Primary Clinical Profiles in Former Military Personnel & Civilians with Chronic mTBI: A TEAM-TBI Study**

**Presentation Author:** Dr. Anthony Kontos

Anthony P Kontos,1,2 Michael W. Collins,1,2 Anne Mucha, DPT3, Valerie Reeves, PhD1, Cyndi Holland, MPH2, Kathryn Edelman, MS1, Ava M. Puccio, PhD1, Walter Schneider, PhD1, David O. Okonkwo, MD, PhD1
1University of Pittsburgh, Pittsburgh, PA, 2UPMC Sports Medicine Concussion Program, Pittsburgh, PA, 3Centers for Rehabilitation Services, Pittsburgh, PA

**FNIRS Changes During Dual-Task Balance Assessment Following Concussion**

**Presentation Author:** Dr. Anthony Kontos

Anthony P Kontos, PhD1,2, Patrick J. Sparto, PhD, PT3, Valerie Reeves, PhD1, Cyndi Holland, MPH2, Abdulaziz A. Alkathiry, PhD, PT4, Theodore J. Huppert, PhD1, Joseph Furman, MD, PhD1
1University of Pittsburgh, Pittsburgh, PA, 2UPMC Sports Medicine Concussion Program, Pittsburgh, PA, 3Department of Physical Therapy, Majmaah University, Saudi Arabia, 4UPMC Eye & Ear Institute, Pittsburgh, PA

**Reliability of the Vestibular Ocular Motor Screening (VOMS) Tool in a Military Clinic Setting**

**Presentation Author:** Dr. Anthony Kontos

Anthony P Kontos, PhD1,2, MAJ Katrina Monti, PA3, MAJ Eliot Thomasma, DPT3, Michael W. Collins,1,2 Anne Mucha, DPT4, Valerie Reeves, PhD1, Drew Thomas5, Cyndi Holland, MPH2, Pat Sparto, PhD1, Susan Whitney, PhD, PT1, Greg Marchetti, PhD6, Joseph Furman, MD, PhD1,7
1University of Pittsburgh, Pittsburgh, PA, 2UPMC Sports Medicine Concussion Program, Pittsburgh, PA, 31st Special Forces Group (A), Joint Base Lewis-McChord, WA, 4Centers for Rehabilitation Services, Pittsburgh, PA, 5Geneva Foundation, Joint Base Lewis-McChord, WA, 6Duquesne University, Pittsburgh, PA, 7UPMC Eye & Ear Institute, Pittsburgh, PA

**The Expanded Automatic Assessment of Postural Stability: The xAAPS**

**Presentation Author:** Dr. Alessandro Napoli

Alessandro Napoli, PhD, Stephen M. Glass, PhD, Carole A. Tucker, PT, PhD, Iyad Obeid, PhD Temple University, Philadelphia, PA

**Development & Future Directions of a Return to Duty Assessment Toolkit for Neurosensory Injury**

**Presentation Author:** Ms. Norah Hass

Norah Hass, MA1,2, Melody King1, Amanda Kelley, PhD1
1US Army Aeromedical Research Laboratory, Fort Rucker, AL, 2Oak Ridge Institute for Science & Education, Oak Ridge, TN

**The Clinical Utility of Using Involuntary Eye Movements to Assess Concussion**

**Presentation Author:** Dr. Nicholas Port

Nicholas, Port, PhD Indiana University, Bloomington, IN
MHSRS-18-1496  POSTER SESSION 2 - #448
Informing Return-to-Combat Criteria in Soldiers Following Blast-Induced Traumatic Brain Injury Based on Recovery of Long Term Potentiation in Rat Organotypic Hippocampal Slice Cultures
Presentation Author: Mr. Nevin Varghese
Nevin Varghese, MS, Barclay Morrison III, PhD
Columbia University, New York, NY

MHSRS-18-1573  POSTER SESSION 2 - #449
Measuring the Acute Effects on Sleep After Sport-Related Concussion Using Self-Report & Actigraph Measures
Presentation Author: Ms. Anna Klotz
Anna Klotz, LAT¹, Daniel Huber², Ciaran M. Considine, PhD², Michael M. McCrea, PhD¹, Lindsay D. Nelson, PhD¹
¹Medical College of Wisconsin, Milwaukee, WI, ²Vanderbilt University Medical Center, Nashville, TN

MHSRS-18-1588  POSTER SESSION 2 - #450
The Impact of Headache Symptoms on Quality of Life in a TBI Population
Presentation Author: Mr. Brian Moore
Theresa Rizk, BA¹, Annie-Lori Joseph, BA¹, Katelyn Garcia, BA², Brian Moore, PA-C MPH², John Dsurney, PhD², Leighton Chan, MD MPH¹,²
¹National Institutes of Health Clinical Center, Bethesda, MD, ²Uniformed Services University, Bethesda, MD

MHSRS-18-1591  POSTER SESSION 2 - #451
Acute Blood Levels of UCH-L1 & S100B Predict Different Clinical Sequelae of Sport-Related Concussion
Presentation Author: Nicholas Guzowski
Nicholas Guzowski, BA, Lindsay Nelson, PhD, Timothy Meier, PhD, Michael McCrea, PhD
Medical College of Wisconsin, Milwaukee, WI

MHSRS-18-1601  POSTER SESSION 2 - #452
Blink Reflex Parameters in Baseline, Active, & Head-Impact Division I Athletes
Presentation Author: CSM Dena Garner
CSM Dena Garner, Nancey Tsai, MD
Medical University of South Carolina, Charleston, SC

MHSRS-18-1608  POSTER SESSION 2 - #453
Disconnection of the Executive Control Network is Associated with Chronic Symptom Status, Not Injury Severity, in Patients with Traumatic Brain Injury
Presentation Author: Dr. Keith Main
Keith Main, PhD¹, Anna-Clare Milazzo, PhD²,³, Bernard Ng, PhD¹, Sailil Soman, MD, MS⁵, Jordan Nechvatal, PhD²,³, Jennifer Kong, MS², Stephanie Kolakowsky-Hayner, PhD⁶, Ansgar Furst, PhD²,³, J. Wesson Ashford, MD, PhD²,³, Michael Greicius, PhD³, Maheen Adamson, PhD³,⁷
¹Defense & Veterans Brain Injury Center, Silver Spring, MD, ²War Related Illness & Injury Study Center, Palo Alto, CA, ³Stanford University School of Medicine, Stanford, CA, ⁴University of British Columbia, Vancouver, BC, Canada, ⁵Harvard Medical School, Boston, MA, ⁶Santa Clara Valley Medical Center, San Jose, CA, ⁷Defense & Veterans Brain Injury Center, Palo Alto, CA

MHSRS-18-1656  POSTER SESSION 2 - #454
An Evidentiary Review of the Glasgow Outcome Scale - Extended: Is It Appropriate for Use in TBI Clinical Trials?
Presentation Author: Dr. Andrea Christoforou
Andrea Christoforou, PhD, PT¹, Michael Bergin, PhD¹, Melissa Armstrong, MD, MSc², Ann Robbins, PhD³, Shannon Merrill, MLS³, Patricia Erwin, MLS³, Thomas Getchius⁴, Michael McCrea, PhD, ABPP-CN⁵, Joseph Giacino, PhD¹
¹Spaulding Rehabilitation Hospital & Harvard Medical School, Boston, MA, ²University of Florida, Gainesville, FL, ³Critical Path Institute, Tucson, AZ, ⁴American Academy of Neurology, Minneapolis, MN, ⁵Mayo Clinic, Rochester, MN, ⁶Heart Rhythm Society, Washington, DC, ⁷Medical College of Wisconsin, Milwaukee, WI
MHSRS-18-1657  POSTER SESSION 2 - #455
The Validity of the Rivermead Post-Concussion Questionnaire in Detection & Monitoring of Post-Concussive Symptoms
Presentation Author: Dr. Andrea Christoforou
Andrea Christoforou, PhD, PT1, Stephanie Agtarap, PhD2, Shannon Meriliat, MLIS3, Patricia Erwin, MLS4, Murray Stein, MD2, Joseph Giacino, PhD1
1Spaulding Rehabilitation Hospital & Harvard Medical School, Boston, MA, 2University of California, San Diego, CA, 3American Academy of Neurology, Minneapolis, MN, 4Mayo Clinic, Rochester, MN

MHSRS-18-1681  POSTER SESSION 2 - #456
Sensorimotor Multi-Tasking Assessment in the Computer Assisted Rehabilitation Environment (CAREN): A Retrospective Study in Service Members with Traumatic Brain Injury & Co-Occurring Psychological Symptoms
Presentation Author: Ms. Sarah Kruger
Marie M. Onakomaiya, PhD, MPH1,5, Sarah E. Kruger, MS1, Krista B. Highland, PhD2,4,6, Marcy M. Pape, MPT1, Paula N. Kodosky, DPT1, Michael J. Roy, MD, MPH1,3
1Walter Reed National Military Medical Center, Bethesda, MD, 2Center for Neuroscience & Regenerative Medicine, Bethesda, MD, 3Uniformed Services University of the Health Sciences, Bethesda, MD, 4Defense & Veterans Center for Integrative Pain Management, Rockville, MD, 5Cherokee Nation Technology Solutions, Tulsa, OK, 6Henry M. Jackson Foundation, Bethesda, MD

MHSRS-18-1689  POSTER SESSION 2 - #457
Glasgow Outcome Scale Extended—Differences Counting Disability from Only Brain Injury versus Including Peripheral Injuries in Those with Glasgow Coma Scale 13-15: A TRACK-TBI Study
Presentation Author: Dr. Nancy Temkin
Nancy Temkin, PhD1, Evan Zahniser, MA1, Molly Rose Morrisey, BS2, Jason Barber, MS1, Joan Machamer, MA1, Geoffrey Manley, MD, PhD2, Sureyya Dikmen, PhD1
1University of Washington, Seattle, WA, 2University of California San Francisco, San Francisco, CA

MHSRS-18-1752  POSTER SESSION 2 - #458
A CAM Therapy Non-Invasive Sleep Aid for Chronic Post Traumatic Headache (PTH)
Presentation Author: Mr. Joe Meisch
Joe Meish, BA, Army veteran1, Molly Timmerman, DO2, Maheen M. Adamson, PhD3, Jordan Rine4 4Temple Massager, Inc, 2Veterans Affairs Palo Alto Health Care System, 3Defense & Veterans Brain Injury Center, Palo Alto, California, 4Palo Alto University, Palo Alto, CA

MHSRS-18-1800  POSTER SESSION 2 - #459
Development of a Novel Center for Service Members & Dependents with Cognitive Complaints at a Military Treatment Facility, Rationale, Clinical Processes, & Progress
Presentation Author: Mrs. Katherine Sullivan
Katherine Sullivan, MS1,2, Wendy Law, PhD1,2, Laura Loyola, MS1,2, Martin Knoll, MS1,2, Alana Snelling, BA, BS1,2, Erin Hagen, BS1,2, Louis French, PsyD1,2
1National Intrepid Center of Excellence, Bethesda, MD, 2Walter Reed National Military Medical Center, Bethesda, MD

MHSRS-18-1804  POSTER SESSION 2 - #460
A Deep Dive into the Relationship between Computerized Neurocognitive Assessment Tools (NCATs) & Symptoms of Mild Traumatic Brain Injury
Presentation Author: Ms. Angelica Ahrens
Angelica P Ahrens, MBA1,2, Wesley R. Cole, PhD1,2, Alan G. Finkel, MD1,3, Karen A. Schwab, PhD4,5
1Defense & Veterans Brain Injury Center, Fort Bragg, NC, 2Womack Army Medical Center, Fort Bragg, NC, 3Carolina Headache Institute, Durham, NC, 4Defense & Veterans Brain Injury Center, Silver Spring, MD, 5Uniformed Services University of the Health Sciences, Bethesda, MD
MHSRS-18-1821  POSTER SESSION 2 - #461  
Correcting the Uncorrected Reaction Time Measurement Error on the ANAM4 with an External Calibration Device  
Presentation Author: Ms. Brittney Roberson  
Brittney L. Roberson, MSW, Jacques P. Arrieux, MA, Katie N. Russell, NCPT, Wesley R. Cole, PhD  
1Defense & Veterans Brain Injury Center, Fort Bragg, NC, 2General Dynamics Health Solutions, Fort Bragg, NC

MHSRS-18-1872  POSTER SESSION 2 - #462  
RCT of CI Therapy for Rehabilitating Upper Extremity Motor Function after TBI: The BRAVE Project  
Presentation Author: Dr. Edward Taub  
Edward Taub, PhD, David Morris, PT, PhD, Victor W. Mark, MD, Wei Liu, PhD, Lisa Brenner, PhD, Treven Pickett, PsyD, Kelly Stearns-Yoder, BA, Staci Bishop-Mckay, BS, Andrea Taylor, BA, BS, MPH, Laura Reder, LPTA, Terrie Adams, MS, Jim Rimmer, PhD, Dustin Dew, MS, Jerzy Safarski, MD, PhD, Marca S. Alexander, MD, Brent Womble, MS, Lillian Stevens, PhD, David Rothman, MS, Gitendra Uswatte, PhD  
1University of Alabama at Birmingham, Birmingham, AL, 2Auburn University, Auburn, AL, 3National Intrepid Center of Excellence, Bethesda, MD, 4University of Colorado & Denver Veteran’s Medical Center, Denver, CO, 5Rocky Mountain MIRECC, Denver, CO, 6Birmingham Veteran’s Administration Medical Center, Birmingham, AL, 7Hunter Holmes McGuire VA Medical Center, Richmond, VA

MHSRS-18-1881  POSTER SESSION 2 - #463  
Research Methods, Participant Demographics, & Tolerability of a Study of Bilateral Prefrontal Transcranial Magnetic Stimulation (TMS) to Treat the Symptoms of mTBI & PTSD  
Presentation Author: Ms. Jerika Taylor  
Jerika Taylor, Kyler Osborne, Lindsay Oberman, Ariana Gover-Chamlou, Nancy de Almeida, Emilia Jaskot, Paul Pasquina  
1Henry M. Jackson Foundation for the Advancement of Military Medicine, Bethesda, MD, 2Center for Rehabilitation Sciences Research, Bethesda, MD, 3Uniformed Services University of the Health Sciences, Bethesda, MD, 4Walter Reed National Military Medical Center, Bethesda, MD, 5Center for Neuroscience & Regenerative Medicine, Bethesda, MD, 6Robert Wood Johnson Medical School, New Brunswick, NJ, 7The National Institutes of Health, Bethesda, MD

MHSRS-18-1882  POSTER SESSION 2 - #464  
Measuring the Acute Effects on Sleep After Sport-Related Concussion Using Self-Report & Actigraph Measures  
Presentation Author: Ms. Anna Klotz  
Anna Klotz, LAT, Daniel Huber, Ciaran Considine, PhD, Michael McCrea, PhD, Lindsay Nelson, PhD  
1Medical College of Wisconsin, Milwaukee, WI, 2Vanderbilt University, Nashville, TN

MHSRS-18-1924  POSTER SESSION 2 - #465  
Neurocomputational Models of Static Balance & Dynamic Walking for mTBI Phenotyping  
Presentation Author: Dr. Gregory Ciccarelli  
Gregory Ciccarelli, PhD, Michael Nolan, Hrishikesh Rao, Anne O’Brien, Gloria Vergara-Diaz, Harvey Edwards, Jeffrey Palmer, Thomas Quatieri, Paolo Bonato, Ryan McKindles, Adam Lammert  
1MIT Lincoln Laboratory, Lexington, MA, 2Spaulding Rehabilitation Hospital, Boston, MA

MHSRS-18-1949  POSTER SESSION 2 - #466  
Longitudinal Evaluation of Resting-State Functional Connectivity After Sport-Related Concussion Using Large-Scale Network Analysis  
Presentation Author: Dr. Timothy Meier  
Mayank Kaushal, MD, MBA, Lezlie Y. España, BS, Andrew S. Nencka, PhD, Yang Wang, MD, PhD, Lindsay D. Nelson, PhD, Michael A. McCrea, PhD, Timothy B. Meier, PhD  
Medical College of Wisconsin, Milwaukee, WI

MHSRS-18-1952  POSTER SESSION 2 - #467  
Microstructural Changes After Brain Ablation with Focused Ultrasound  
Presentation Author: Dr. Vibhor Krishna  
Vibhor Krishna, MD, SM, Francesco Sammaretino, MD  
Ohio State University, Columbus, OH
MHSRS-18-1960 POSTER SESSION II - #468
Assessment of Mild TBI Based on Cardiovascular Response to Posture Changes
Presentation Author: Dr. Kristin Gilchrist
Kristin H. Gilchrist¹, Derek D. Ramirez¹, Meghan Hegarty-Craver¹, Breda Munoz¹, Erica L. Hirsch¹, Katie N. Russell², Jacques P. Arrieux², Wesley R. Cole², Kristine Rae Olmsted¹ & Young S. Choi²
¹RTI International, Research Triangle Park, NC, ²Womack Army Medical Center, Fort Bragg, NC

MHSRS-18-2010 POSTER SESSION II - #469
Primary Care Practices in Care for Service Members with Acute Concussion: Changes Following an Educational Intervention on the DVBIC Progressive Return to Activity Clinical Recommendation
Presentation Author: Dr. Karen McCulloch
Karen L. McCulloch, PT, PhD, NCS¹,², Julianna Prim, MS¹,², Amy Cecchini, PT, DPT¹, Taylor R. Andrews, BA¹,²,³, Keith Stuessi, MD⁴,⁵,⁶, Emma Gregory, PhD⁷,⁸
¹University of North Carolina at Chapel Hill, Chapel Hill, NC, ²Venesco LLC, Chantilly, VA, ³Womack Army Medical Center, Fort Bragg, NC, ⁴Defense & Veterans Brain Injury Center, Silver Spring, MD, ⁵Naval Medical Center San Diego, San Diego, CA, ⁶Naval Hospital Camp Pendleton, Camp Pendleton, CA, ⁷General Dynamics Health Solutions, Silver Spring, MD

MHSRS-18-2095 POSTER SESSION II - #470
Composite Balance Score to Detect Sandbagging During Baseline Balance Tests
Presentation Author: Dr. Zachary Domire
Caitlin O'Connell, PhD, Gustavo Sandri Heidner, MS, J.C. Mizelle, PhD, Nicholas Murray, PhD, Patrick Rider, MS, Zachary Domire, PhD
East Carolina University, Greenville, NC

MHSRS-18-2136 POSTER SESSION II - #471
Subsensory Neuromodulation Improves Vestibular Function & Balance in Patients with Bilateral or Unilateral Hypofunction
Presentation Author: Dr. Jorge Serrador
Jorge Serrador, PhD¹, Yoav Gimmon, PhD², Scott Wood, PhD³, Paul Breen, PhD⁴, Michael Schubert, PhD⁵
¹Rutgers Biomedical Health Sciences, Newark, NJ, ²War Related Illness & Injury Study Center, Veterans Administration Health Care System, East Orange, NJ, ³Johns Hopkins School of Medicine, Baltimore, MD, ⁴Azusa Pacific University, Azusa, CA, ⁵Western Sydney University, Sydney, Australia

MHSRS-18-2144 POSTER SESSION II - #472
Impaired Postural CBF Regulation in Acute Concussion: A Point-of-Care Assessment on Field
Presentation Author: Dr. Jorge Serrador
Jie Liu, PhD¹, Michelle Favre, BS¹,², Allan Knox, PhD¹,², Kelly Brewer, MS¹,², Jenna Tosto, BA², Michael Falvo, PhD¹,², Jorge M. Serrador, PhD¹,²
¹Rutgers Biomedical Health Sciences, Newark, NJ, ²War Related Illness & Injury Study Center, Veterans Administration Health Care System, East Orange, NJ

MHSRS-18-2170 POSTER SESSION II - #473
The Cumulative Effect of Mild Traumatic Brain Injury on ImPACT® Performance in Collegiate Athletes
Presentation Author: Dr. Jacob Resch
Jacob Resch, PhD, Samuel Walton, MEd, Nicholas Erdman MS, Donna Broshek, PhD
University of Virginia, Charlottesville, VA
DEVELOPING INSIGHTS INTO RESPONSE TO NEUROTRAUMA SUSTAINED BY THE WARFIGHTER & DEVELOPMENT OF “OMIC” BASED PRECISION INTERVENTIONS

**MHSRS-18-0134**  **POSTER SESSION 2 - #474**  
**Blood Based Inflammatory Biomarkers for TBI in Rat**  
Presentation Author: Dr. Pushpa Sharma  
Paul Young, MD, Michael Hoerner, MD, Graham Davis, MD, Biswajit Saha, MD, Pushpa Sharma, PhD  
1Uniformed Services University of the Health Sciences, Bethesda, MD, 2Virginia Commonwealth University School of Medicine, Richmond, VA, 3Drexel University College of Medicine, Philadelphia, PA

**MHSRS-18-0568**  **POSTER SESSION 2 - #475**  
**Focal & Diffuse Impacts of Mild vs. Moderate Traumatic Brain Injury (TBI): Temporal Assay of Hippocampal & Cerebellar Transcriptomics**  
Presentation Author: Mr. Nabarun Chakraborty  
Nabarun Chakraborty, MS, MBA, Rasha Hammamieh, PhD, Aarti Gautam, PhD, Stacy-Ann Miller, MS, Michelle L. Condlin, PhD, Marti Jett, PhD, Andrei Loba, PhD, Angus G. Scrimgeour, PhD  
1US Army Center for Environmental Health Research, Fort Detrick, MD, 2US Army Research Institute of Environmental Medicine, Natick, MA

**MHSRS-18-0764**  **POSTER SESSION 2 - #476**  
**Pre-Injury Statin Use is Associated with Improved Survival in Patients with Isolated Severe Traumatic Brain Injury**  
Presentation Author: Capt Adil Lokhandwala  
Capt Adil Lokhandwala, MD, Muhammad Zeeshan, MD, Lynn Gries, MD, Mohammad Hamidi, MD, Terence O’Keeffe, MD, El Rasheid Zakaria, MD, PhD, Narong Kulvatunyou, MD, Andrew Tang, MD, Bellal Joseph, MD  
University of Arizona, Tucson, AZ

**MHSRS-18-1725**  **POSTER SESSION 2 - #477**  
**Longitudinal Changes in the White Matter Diffusion Tensor in Patients with Moderate Traumatic Brain Injury**  
Presentation Author: Dr. Rajiv Gupta  
Maria G Longo, MD, Suk-tak Chan, PhD, Can Ozan Tan, PhD, Jonathan Welt, BS, Emad Ahmadi, MD, Eva Ratai, PhD, Anastasia Yendiki, PhD, Jacqueline Namati, PhD, Isabel Chico-Calero, PhD, Blair A Parry, BA, Michael Lev, MD, Jarone Lee, MD, Michael Hamblin, PhD, Benjamin Vakoc, PhD, Rajiv Gupta, MD  
1Massachusetts General Hospital, Charlestown, MA, 2Massachusetts General Hospital, Boston, MA, 3Spaulding Rehabilitation Hospital, Boston, MA

**MHSRS-18-1746**  **POSTER SESSION 2 - #478**  
**Longitudinal Changes of Functional & Structural Connectivity in Patients with Moderate Traumatic Brain Injury**  
Presentation Author: Dr. Rajiv Gupta  
Suk-Tak Chan, PhD, Maria Gabriela Longo, MD, Jonathan Welt, BS, Emad Ahmadi, MD, Eva Ratai, PhD, Anastasia Yendiki, PhD, Jacqueline Namati, PhD, Isabel Chico-Calero, PhD, Blair Alden Parry, BA, Michael Lev, MD, Jarone Lee, MD, Michael Hamblin, PhD, Benjamin Vakoc, PhD, Rajiv Gupta, MD  
1Massachusetts General Hospital, Charlestown, MA, 2Massachusetts General Hospital, Boston, MA
MILITARY HEALTH SYSTEM RESEARCH SYMPOSIUM

Poster Session II

MHSRS-18-1748  POSTER SESSION 2 - #479
Transient Neuronal Dysfunction Correlates with Hypo-Perfusion in Patients with Moderate Post-Traumatic Brain Injury
Presentation Author: Dr. Rajiv Gupta
Eva-Maria Ratai1,2, Suk-Tak Chan1,2, Maria Gabriela Longo1, Michael Wenke1, Termara Parker1, Jonathan Welt2,3, Emad Ahmadi1, Anastasia Yendiki1,2, Jacqueline Namati2,3, Isabel Chico-Calero2,4, Blair Parry5, Can Ozan Tan2,4, Michael Lev2,3, Jarone Leo2,3, Michael Hamblin2,3, Benjamin Vakoc2,3, Rajiv Gupta1,2
1Massachusetts General Hospital, Charlestown, MA, 2Harvard Medical School, Boston, MA, 3Massachusetts General Hospital, Boston, MA, 4Spaulding Rehabilitation, Charlestown, MA

MHSRS-18-1778  POSTER SESSION 2 - #480
Distinct Dimensions of Concussion Symptoms Revealed Through Bifactor Modeling
Presentation Author: Dr. Lindsay Nelson
Lindsay D. Nelson, PhD1, Mark D. Kramer, PhD2, Christopher J. Patrick3, Michael A. McCrea1
1Medical College of Wisconsin, Milwaukee, WI, 2University of Texas at Austin, Austin, TX, 3Florida State University, Tallahassee, FL

MHSRS-18-2081  POSTER SESSION 2 - #481
Traumatic Brain Injury (TBI) Alters the Metabolome 24 Hours After Injury
Presentation Author: Dr. Kalev Freeman
Kalev Freeman, MD, PhD1, Adrian Sackheim, BS1, Nuria Villalba, PhD1, Travis Nemkov, PhD2, Angelo D’Alessandro, PhD2, Anirban Banerjee, PhD2
1University of Vermont, Burlington, VT, 2University of Colorado, Denver, CO

TRANSLATING MILITARY TRAUMATIC BRAIN INJURY INTO CLINICAL PRACTICE

MHSRS-18-0018  POSTER SESSION 2 - #482
Repurposing EXP-1601 for the Prevention of Brain Injury & Post-Traumatic Epilepsy
Presentation Author: Dr. Braxton Norwood
Braxton A Norwood, PhD, David Booth, BS
Expesicor Inc, Kalispell, MT

MHSRS-18-0020  POSTER SESSION 2 - #483
Presentation Author: CPT Grant Justin
CPT Grant A. Justin, MD1,2, Cameron J. Elward, BS1, Daniel I. Brooks, PhD3, Denise S. Ryan, MS4, Eric D. Weichel, MD5, Marcus H. Colyer, MD1,2
1Uniformed Services University of the Health Sciences, Bethesda, MD, 2Brooke Army Medical Center, San Antonio, TX, 3Walter Reed National Military Medical Center, Bethesda, MD, 4Warfighter Refractive Eye Surgery Program & Research Center, Fort Belvoir, VA, 5Retina Group of Washington DC, Greenbelt, MD

MHSRS-18-0092  POSTER SESSION 2 - #484
Neurobehavioral Outcome 10-Years Following Mild-Moderate Traumatic Brain Injury in US Military Service Members
Presentation Author: Dr. Rael Lange
Rael Lange, PhD1,2,5, Louis French, PsyD1,4, Sara Lippa, PhD1,3, Rachel Gartner, MS1,3, Angela Driscoll, MS1,3, Megan Wright, MA2,3, Diana Nora, BS1,3, Jamie Sullivan, BA1,3, Jason Bailie, PhD1,8, Nicole Verbedian, BS1,3, Vanessa Cameleo-Lopez, BS1,3, Janelle Cheselka, BS1,3, Paula Bellini, MA1,3, Jayne Holzinger, MA1,3, Hannah Walker, BS1,3, Brian Brandler, MA1,3, Jennifer Freud, BS1,3, Ashley Schaper, MA1,3, Maryetta Reese, BS1,3, Elizabeth Barnhart, BS1,3, Kaitlyn Casey, BA1,3, Vanessa Ndege, MA1,3, Daniel Ramin, BA1,3, Yasmine Eshera, BS1,3, Gabrielle Robinson, BA1,3, Tracey Brickell, PsyD1,4
1Defense & Veterans Brain Injury Center, Bethesda, MD, 2Walter Reed National Military Medical Center, Bethesda, MD, 3National Intrepid Center of Excellence, Bethesda, MD, 4Uniformed Services University of the Health Sciences, Bethesda, MD, 5University of British Columbia, Vancouver, British Columbia, Canada, 6Naval Hospital Camp Pendleton, Oceanside, CA
MHSRS-18-0093  POSTER SESSION 2 - #485
The Relationship Between Perceived Burden & Health-Related Quality of Life in Caregivers of Military Service Members & Veterans Following Traumatic Brain Injury
Presentation Author: Dr. Tracey Brickell
Tracey Brickell, PsyD1,4, Noelle Carlozzi, PhD6, Louis French, PsyD1,4, Sara Lippa, PhD1,3, Rael Lange, PhD1,3,5
1Defense & Veterans Brain Injury Center, Bethesda, MD, 2Walter Reed National Military Medical Center, Bethesda, MD, 3National Intrepid Center of Excellence, Bethesda, MD, 4Uniformed Services University of the Health Sciences, Bethesda, MD, 5University of British Columbia, Vancouver, British Columbia, Canada, 6University of Michigan, Ann Arbor, MI

MHSRS-18-0094  POSTER SESSION 2 - #486
Presentation Author: Dr. Tracey Brickell
Tracey Brickell, PsyD1,4, Louis French, PsyD1,4, Rachel Gartner, MS1,3, Angela Driscoll, MS1,3, Megan Wright, MA1,3, Diana Nora, BS1,3, Jamie Sullivan, BA1,3, Sara Lippa, PhD1,3, Nicole Varbedian, BS1,3, Vanessa Camelo-Lopez, BS1,3, Janelle Cheselka, BS1,3, Paula Bellini, MA1,3, Jayne Holzinger, MA1,3, Hannah Walker, BS1,3, Brian Brandler, MA1,3, Jennifer Freud, BS1,3, Ashley Schaper, MA1,3, Maryetta Reese, BS1,3, Elizabeth Barnhart, BS1,3, Kaitlyn Casey, BA1,3, Vanessa Ndege, MA1,3, Daniel Ramen, BA1,3, Yasmine Eshera, BS1,3, Gabrielle Robinson, BA1,3, Rael Lange, PhD1,3,5
1Defense & Veterans Brain Injury Center, Bethesda, MD, 2Walter Reed National Military Medical Center, Bethesda, MD, 3National Intrepid Center of Excellence, Bethesda, MD, 4Uniformed Services University of the Health Sciences, Bethesda, MD, 5University of British Columbia, Vancouver, British Columbia, Canada

MHSRS-18-0096  POSTER SESSION 2 - #487
Service Needs & Health Outcomes Among Caregivers of Service Members & Veterans Following Traumatic Brain Injury
Presentation Author: Dr. Tracey Brickell
Tracey Brickell, PsyD1,4, Sara Lippa, PhD1,3, Louis French, PsyD1,4, Rachel Gartner, MS1,3, Angela Driscoll, MS1,3, Megan Wright, MA1,3, Rael Lange, PhD1,3,5
1Defense & Veterans Brain Injury Center, Bethesda, MD, 2Walter Reed National Military Medical Center, Bethesda, MD, 3National Intrepid Center of Excellence, Bethesda, MD, 4Uniformed Services University of the Health Sciences, Bethesda, MD, 5University of British Columbia, Vancouver, British Columbia, Canada

MHSRS-18-0097  POSTER SESSION 2 - #488
The Influence of Caregiver Burden on Health Status & Appraisal of Caregiving Among Caregivers of US Military Service Members & Veterans Following Traumatic Brain Injury
Presentation Author: Dr. Tracey Brickell
Tracey Brickell, PsyD1,4, Louis French, PsyD1,4, Rachel Gartner, MS1,3, Angela Driscoll, MS1,3, Megan Wright, MA1,3, Diana Nora, BS1,3, Jamie Sullivan, BA1,3, Sara Lippa, PhD1,3, Nicole Varbedian, BS1,3, Vanessa Camelo-Lopez, BS1,3, Janelle Cheselka, BS1,3, Paula Bellini, MA1,3, Jayne Holzinger, MA1,3, Hannah Walker, BS1,3, Brian Brandler, MA1,3, Jennifer Freud, BS1,3, Ashley Schaper, MA1,3, Maryetta Reese, BS1,3, Elizabeth Barnhart, BS1,3, Kaitlyn Casey, BA1,3, Vanessa Ndege, MA1,3, Daniel Ramen, BA1,3, Yasmine Eshera, BS1,3, Gabrielle Robinson, BA1,3, Rael Lange, PhD1,3,5
1Defense & Veterans Brain Injury Center, Bethesda, MD, 2Walter Reed National Military Medical Center, Bethesda, MD, 3National Intrepid Center of Excellence, Bethesda, MD, 4Uniformed Services University of the Health Sciences, Bethesda, MD, 5University of British Columbia, Vancouver, British Columbia, Canada
**MHSRS-18-0098**  **POSTER SESSION 2 - #489**

A Cross-Sectional Perspective of Self-Reported Postconcussion Symptoms Across the First 10-Years of the Recovery Trajectory Following Mild-Moderate TBI

Presentation Author: Dr. Rael Lange

Rael Lange, PhD1,3,5, Louis French, PsyD1,4, Sara Lippa, PhD1,3, Rachel Gartner, MS1,3, Angela Driscoll, MS1,3, Megan Wright, MA1,3, Diana Nora, BS1,3, Jamie Sullivan, BA1,3, Jason Bailie, PhD1,6, Nicole Varbedian, BS1,3, Vanessa Camelo-Lopez, BS1,3, Janelle Cheselka, BS1,3, Paula Bellini, MA1,3, Jayne Holzinger, MA1,3, Hannah Walker, BS1,3, Brian Brandler, MA1,3, Jennifer Freud, BS1,3, Ashley Schaper, MA1,3, Maryetta Reese, BS1,3, Elizabeth Barnhart, BS1,3, Kaitlyn Casey, BA1,3, Vanessa Ndege, MA1,3, Daniel Ramen, BA1,3, Yasmine Eshera, BS1,3, Gabrielle Robinson, BA1,3, Tracey Brickell, PsyD1,4

1Defense & Veterans Brain Injury Center, Bethesda, MD, 2Walter Reed National Military Medical Center, Bethesda, MD, 3National Intrepid Center of Excellence, Bethesda, MD, 4Uniformed Services University of the Health Sciences, Bethesda, MD, 5University of British Columbia, Vancouver, British Columbia, Canada, 6Navy Hospital Camp Pendleton, Oceanside, CA

**MHSRS-18-0175**  **POSTER SESSION 2 - #490**

Assessment of the Clinical Practice of Neuroendocrine Dysfunction Screening in an Active Duty Military Population with mTBI

Presentation Author: Dr. Christopher Strychacz

Christopher Strychacz, PhD1, Joseph Wood, MD, PhD2, Karen Coleman, PMP2, Scott Mooney, PhD1,2, John Rigg, MD1,2

1Defense & Veterans Brain Injury Center at Fort Gordon, Fort Gordon, GA, 2Eisenhower Army Medical Center, Fort Gordon, GA

**MHSRS-18-0311**  **POSTER SESSION 2 - #491**

Fiber Integrity & Cortical Thickness: Advanced Neuroimaging in Patients with Brain Injuries & Chronic Symptoms

Presentation Author: Dr. Maheen Mausoof Adamson

Defense & Veterans Brain Injury Center (DVBIC), VA Palo Alto Health Care System (PSC/117), Palo Alto, CA, Stanford School of Medicine, Stanford, CA

**MHSRS-18-0327**  **POSTER SESSION 2 - #492**

The Effects of Traumatic Brain Injury (TBI) on Cognitive Performance in a Sample of Active Duty US Military Servicemembers

Presentation Author: Dr. Valerie Rice

Valerie J. Rice, PhD1, Paul J. Schroeder, PhD2, Daniel Cassenti, PhD3, Gary L. Boykin, MS1

1Army Research Laboratory, San Antonio, TX, 2DCS Corp, Alexandria, VA, 3Army Research Laboratory, Aberdeen Proving Ground, MD

**MHSRS-18-0339**  **POSTER SESSION 2 - #493**

Pain Intensity Scale Reliability in Veterans & Service Members with Traumatic Brain Injuries Undergoing Inpatient Rehabilitation

Presentation Author: Dr. Michelle Hoot

Michelle Hoot, PhD1,2, Bilal Khokhar, PhD3, William Walker, MD1,2,4

1Hunter Holmes McGuire Veterans Affairs Medical Center, Richmond, VA, 2Defense & Veterans Brain Injury Center, Richmond, VA, 3General Dynamics Information Technology, Silver Spring, MD, 4Virginia Commonwealth University, Richmond, VA

**MHSRS-18-0340**  **POSTER SESSION 2 - #494**

Diffusion Properties Changes in Cortical Structures & Fiber Pathways for TBI Cases with Chronic Symptom

Presentation Author: Dr. Maheen Adamson

Maheen M. Adamson1,2, Keith L. Main1,3,4, Anna-Clare Milazzo3,4, Bernard Ng6, Salil Soman2,4,5, Jordan Nechvatal2,4, Jennifer Kong4, Stephanie Kolakowski-Hayner6, Ansgar J. Furst2,4, J. Wesson Ashford2,4, Michael D. Greicius2, Xiaojian Kang1

1Defense & Veterans Brain Injury Center (DVBIC), Palo Alto, CA, 2Stanford University School of Medicine, Stanford, CA, 3Defense & Veterans Brain Injury, Silver Spring, MD, 4War Related Illness & Injury Study Center, Palo Alto, CA, 5Harvard Medical School, Boston, MA, 6Icahn School of Medicine, Mt. Sinai, NY
MHSRS-18-0343  POSTER SESSION 2 - #495
Cortical Structural Changes for the TBI Cases with Chronic Symptom
Presentation Author: Dr. Xiaojian Kang
Xiaojian Kang¹, Keith L. Main²-³, Anna-Clare Milazzo²-³, Bernard Ng⁴, Salil Soman³-⁴-⁵, Jordan Nechvatal³-⁴, Jennifer Kong³, Stephanie Kolakowski-Hayner⁴, Ansgar J. Furst³-⁴, J. Wesson Ashford³-⁴, Michael D. Greicius⁴, Maheen M. Adamson¹-⁴
¹Defense & Veterans Brain Injury Center (DVBIC), Palo Alto, CA, ²Defense & Veterans Brain Injury, Silver Spring, MD, ³War Related Illness & Injury Study Center, Palo Alto, CA, ⁴Stanford University School of Medicine, Stanford, CA, ⁵Harvard Medical School, Boston, MA, ⁶icahn School of Medicine, Mt. Sinai, NY

MHSRS-18-0448  POSTER SESSION 2 - #496
Presentation Author: Dr. Michelle Hoot
Michelle Hoot, PhD¹-², Harvey Levin, PhD³-⁴, Austin Smith, BS¹-², Gary Goldberg, MD¹-⁵, Elisabeth Wilde, PhD³-⁴, William Walker, MD¹-²-⁵, Tracy Nolen, PhD⁶, Norma Pugh, MS⁶
¹Hunter Holmes McGuire Veterans Affairs Medical Center, Richmond, VA, ²Defense & Veterans Brain Injury Center, Richmond, VA, ³Baylor College of Medicine, Houston, TX, ²Michael E. DeBakey Veterans Affairs Medical Center, Houston, TX, ⁵Virginia Commonwealth University, Richmond, VA, ⁶RTI International, Research Triangle Park, NC

MHSRS-18-0510  POSTER SESSION 2 - #497
A Point-of-Care Salivary Test for Neurological Emergencies & Traumatic Brain Injury
Presentation Author: Dr. Damir Janigro
Aaron Dadas, BEng

MHSRS-18-0544  POSTER SESSION 2 - #498
Cognitive Performance & mTBI Risk in US Army Soldiers: A Case Study on the Effect of Left Truncation & Left Censoring in a Military Cohort Study
Presentation Author: Ms. Caitlin Dillon
Caitlin Dillon, MPH¹, Donna Merullo, BA¹, Kristin Heaton, PhD¹-², Kathryn Taylor, DSc¹-³, Susan Proctor, DSc¹-²-⁴
¹US Army Research Institute of Environmental Medicine, Natick, MA, ²Boston University School of Public Health, Boston, MA, ³Harvard T.H. Chan School of Public Health, Boston, MA, ⁴VA Boston Healthcare System, Boston, MA

MHSRS-18-0581  POSTER SESSION 2 - #499
Human Neural Stem Cells Engraftment Window in Penetrating Ballistic-Like Brain Injury in Rats
Presentation Author: Dr. Shyam Gajavelli
Shyam Gajavelli, Markus Spurlock, Zhen Hu, Stephanie W. Lee, Karla Rivera, Liz Quesada, Henry Powell, Anil Mahavadi, Ross Bullock
¹University of Miami Miller School of Medicine, Miami, FL

MHSRS-18-0590  POSTER SESSION 2 - #500
Persistent Post-Concussive Symptom Endorsement Among Active Duty Military & Civilian Populations
Presentation Author: Dr. Robin Elisabeth Cornwell
R. Elisabeth Cornwell, PhD¹, CB Eagyè², Candace Hill-Pearson, RN¹, Alicia R. Souvignier, DPT¹-³, Renee M. Pazdan, MD¹-³, Jorge I. Arango, MD¹
¹Defense and Veterans Brain Injury Center, Fort Carson, CO, ²Craig Hospital, Englewood, CO, ³Evans Army Community Hospital, Fort Carson, CO

MHSRS-18-0593  POSTER SESSION 2 - #501
Interaction Between Psychiatric Symptoms & History of Mild TBI When Evaluating Postconcussion Syndrome in Veterans
Presentation Author: Dr. Joshua Hunt
Joshua C. Hunt¹, Sadie E. Larsen¹-², Eric R. Larson¹-², William G. Lorber¹-², Terri A. deRoon-Cassini³
¹Medical College of Wisconsin, Milwaukee, WI, ²Clement J Zablocki VA Medical Center, Milwaukee, WI
MHSRS-18-0714  
**POSTER SESSION 2 - #502**  
**Cerium Oxide Nanoparticles Restore Biochemical Deficits Induced by Mild Blast Injury**  
Presentation Author: Dr. Beverly Rzigalinski  
Beverly Rzigalinski, PhD1, Zachary Bailey, PhD2, John Sanderson1, Pamela VanderVord PhD2, Kevin Hockey2  
1Via College of Osteopathic Medicine, Virginia Campus, Blacksburg, VA, 2Virginia Polytechnic & State University, Blacksburg, VA

MHSRS-18-0748  
**POSTER SESSION 2 - #503**  
**Primary Care Provider Practices in Management of Post-Traumatic Headache: A Qualitative Analysis**  
Presentation Author: Ms. Shandi Watts  
Shandi Watts1-2-5, Sandra Escolas1-2-5, Scot Engel1-5, Sean Sebesta1-4, Adriana Rico1-6, Conethra Burt-Kelley1-6, Daniel Beauchamp1, Emma Gregory1-2, Rose Braue1-2, Carrie Cheung1-2, Hamid Ferdosi1-2, Saafan Malik1, Ann Scher2, Sidney R. Hinds2-7  
1Defense & Veterans Brain Injury Center, Falls Church, VA, 2General Dynamics Health Solutions, Fairfax, VA, 3Uniformed Services University of the Health Sciences, Bethesda, MD, 4Ft Bliss Intrepid Spirit Center, 5Ft Hood Intrepid Spirit Center, 6Henry M. Jackson Foundation for the Advancement of Military Medicine, Bethesda, MD, 7US Army Medical Research & Materiel Command

MHSRS-18-0760  
**POSTER SESSION 2 - #504**  
**Traumatic Brain Injuries: Underreported & Untreated?**  
Presentation Author: Dr. Sandra Escolas  
Sandra Escolas1-3, Shandi Watts1-3, Marjorie Luton1-3, Hamid Ferdosi1-2, Scot Engel1-3, Saafan Malik1  
1Defense & Veterans Brain Injury Center, Falls Church, VA, 2General Dynamics Health Solutions, Fairfax, VA, 3Fort Hood Intrepid Spirit Center

MHSRS-18-0794  
**POSTER SESSION 2 - #505**  
**Reducing Recovery Times with Concussion Care Process Improvements During Basic Cadet Training at the United States Air Force Academy**  
Presentation Author: Dr. Joel Robb  
Joel Robb, PT1, Jonathan Jackson, MD1, Gerald McGinty, PT1, Darren Campbell, MD2, Bonita Anderson, ATC1  
1USAFA, Colorado Springs, CO, 2Intermountain Healthcare, Logan, UT

MHSRS-18-0811  
**POSTER SESSION 2 - #506**  
**Reasons for Late Reporting: A Qualitative Analysis of Late Concussion Disclosure in a Military Academy Population**  
Presentation Author: Dr. Joel Robb  
Joel Robb, PT1, Christopher D’Lauro, PhD, Jonathan Jackson, MD, Gerald McGinty, PT, Matthew Weirath, DO, James Ayres, Bonita Anderson, ATC  
USAFA, Colorado Springs, CO

MHSRS-18-0843  
**POSTER SESSION 2 - #507**  
**Socioeconomic Status Influences Symptom Endorsement Following Mild Traumatic Brain Injury**  
Presentation Author: Dr. Matthew Reid  
Matthew Reid, PhD1, Lisa Lu, PhD1, Douglas Cooper, PhD2-3, Jan Kennedy, PhD1  
1Brooke Army Medical Center, San Antonio, TX, 2South Texas Veterans Health Care System, San Antonio, TX, 3University of Texas Health Science Center, San Antonio, TX

MHSRS-18-0935  
**POSTER SESSION 2 - #508**  
**Assessment of Chronic mTBI Status in Veterans**  
Presentation Author: Dr. Elizabeth Brokaw  
Elizabeth B. Brokaw1, Michael S. Fine1, Anthony Santiago II1, Stacey Harris-Carriman2  
1The MITRE Corporation, McLean, VA, 2New Mexico VA Health Care System, Albuquerque, NM
Evolution & Findings of the CARE Consortium: A Pivot to Studying Cumulative & Persistent Effects of Concussion & Repetitive Head Impact Exposure

Presentation Author: Dr. Thomas McAllister
Thom McAllister, MD, Steven Broglio, PhD, ATC, Michael McCrea, PhD, ABPP, Paul F. Pasquina, MD, Jody Harland, MS, CIP, Ashley Rettnan, CCRP, Melissa Koschitzke, MA, CCRC, CARE Consortium Investigators

1Indiana University School of Medicine, Indianapolis, IN, 2University of Michigan, Ann Arbor, MI, 3Medical College of Wisconsin, Milwaukee, WI, 4Uniformed Services University of the Health Sciences, Bethesda, MD, 5CARE Consortium Performance Sites

Predictive Factors of Worse Neuropsychological Functioning Among Veterans with mTBI

Presentation Author: Mr. Clark Ryan-Gonzalez

1The University of Texas at San Antonio, San Antonio, TX, 2Department of Veterans Affairs, Waco, TX, 3Texas A&M University Health Science Center, College Station, TX, 4Baylor, Scott & White Healthcare System, Waco, TX, 5VA Mid-Atlantic Mental Illness Research, Education, & Clinical Center, Durham, NC, 6Duke University School of Medicine, Durham, NC

Weak Agreement Between Prospectively & Retrospectively Measured Posttraumatic Amnesia Duration in Veterans & Service Members with Traumatic Brain Injury: A VA TBI Model Systems Study

Presentation Author: Dr. Marc Silva
Marc A. Silva, PhD, Erin M. Brennan, MPH, M. Brad Rechekemmer, MPH, Risa Nakase-Richardson, PhD

1James A. Haley Veterans’ Hospital, Tampa, FL, 2University of South Florida, Tampa, FL, 3Defense & Veterans Brain Injury Center, Tampa, FL

The Relationship Between Mild Traumatic Brain Injury & Neurobehavioral Symptoms Among Those Who Served in OEF/OIF/OND combat: A Chronic Effects of Neurotrauma Consortium Study

Presentation Author: Dr. Terri Pogoda
Terri K. Pogoda, PhD, Heather G. Belanger, PhD, Kathleen F. Carlson, PhD, Harvey Levin, PhD, Tracy L. Nolen, DrPh, Kayla J. Nowak, Maya E. O’Neil, PhD, David F. Tate, PhD, Elisabeth A. Wilde, PhD, William C. Walker, MD

1VA Boston Healthcare System, Boston, MA, 2Boston University School of Public Health, Boston, MA, 3James A. Haley Veterans Hospital, Tampa, FL, 4University of South Florida, Tampa, FL, 5VA Portland Healthcare System, Portland, OR, 6Oregon Health & Science University, Portland, OR, 7Michael E. DeBakey Veterans Affairs Medical Center, Houston, TX, 8Baylor College of Medicine, Houston, TX, 9RTI International, Research Triangle Park, NC, 10Missouri Institute of Mental Health, University of Missouri-St. Louis, St. Louis, MO, 11University of Utah, Salt Lake City, UT, 12Hunter Holmes McGuire VA Medical Center, Richmond VA, 13Virginia Commonwealth University, Richmond VA

Results from a Molecular Neuroimaging Pilot Study of Traumatic Brain Injury

Presentation Author: MAJ David Douglas
MAJ David Douglas, MD, Jason Zhao, MD, PhD, Steve Lewis, MD, Jared Kirkland, MD, Trevor Thompson, MD, Brian McQuillan, MD, Matthew Rodgers, MD, MS, Tae Ro, MD, Bennet Krawchuk, MS, Josh Nielsen, BS, Eric Kincaid, MD, Trevor Thompson, MD, Brittany Ballen, D.O., John Muldermans, MD, Kevin Grayson, DVM, Ely Wolin, MD, James Walroth, MD, Austin Johnson, MD, PhD

1David Grant Medical Center, Travis AFB, CA, 2University of California, Davis, CA
**MHSRS-18-1241**  
**POSTER SESSION 2 - #515**

**Individual Symptoms Classify Typical & Atypical Concussion Recovery Duration**

Presentation Author: Kathryn O’Connor

Kathryn L. O’Connor, MS¹, Kenneth L. Cameron, PhD, MPH, ATC, FNATA², Colonel (Ret) Darren E. Campbell, MD³, Christopher D’Lauro, PhD⁴, Megan N. Houston, PhD, ATC⁵, Lieutenant Colonel Jonathan C. Jackson, MD⁶, Lieutenant Commander Brian R. Johnson, PhD⁷, Lieutenant Colonel (Ret) Gerald McGinty⁷, Lieutenant Commander Patrick G. O’Donnell, MHA⁸, Lieutenant Colonel Paul Pasquina, MD⁹, Karen Y. Peck, MEd, ATC, CCRP⁰, Colonel (Ret) Steven J. Svoboda, MD¹, Thomas McAllister, MD¹, Michael McCrea, PhD⁹, Steven P Broglio, PhD, ATC¹

¹University of Michigan, Ann Arbor, MI, ²Keller Army Community Hospital, West Point, NY, ³Logan Regional Orthopedics, Logan, UT, ⁴United States Air Force Academy, Colorado Springs, CO, ⁵US Coast Guard Academy, New London, CT, ⁶Uniformed Services University of the Health Sciences, Bethesda, MD, ⁷MedStar Health, Washington, DC, ⁸Indiana University School of Medicine, Indianapolis, IN, ⁹Medical College of Wisconsin, Milwaukee, WI

**OPEN**  
**POSTER SESSION 2 - #516**

**MHSRS-18-1340**  
**POSTER SESSION 2 - #517**

**Relationships Between Trauma Adversity, Resilience & Depression in US Service Members with a History of Mild Traumatic Brain Injury**

Presentation Author: Dr. Jan Kennedy

Jan E. Kennedy, PhD¹,², Matthew W. Reid, PhD¹,², Lisa H. Lu, PhD¹,², Douglas B. Cooper, PhD¹,³,⁴

¹Defense & Veterans Brain Injury Center, San Antonio, TX, ²Brooke Army Medical Center, Ft Sam Houston, TX, ³South Texas Veterans Health Care System, San Antonio, TX, ⁴UT-Health San Antonio, San Antonio, TX

**MHSRS-18-1371**  
**POSTER SESSION 2 - #518**

**The Impact of Head Trauma History on Symptom Presentation in Deployed Settings after Acute Blast Injury**

Presentation Author: Mr. Jose Lara-Ruiz

Jose Lara-Ruiz, MA¹,², Casey Straud, PsyD¹, Willie Hale, PhD¹,², Hunter Hansen, PsyD¹,², Shah Dhiya, PsyD¹,², Lt Col Monty T. Baker, PhD¹,³, Stacey Young-McCaugham, RN, PhD¹,², Allison Hancock, PhD¹,², Jim Mintz, PhD¹,², Jeffrey A. Cigrang, PhD¹,², Alan L. Peterson, PhD¹,²,³,⁴,⁵

¹University of Texas Health Science Center at San Antonio, San Antonio, TX, ²University of Texas at San Antonio, San Antonio, TX, ³Wilford Hall Ambulatory Surgical Center, Lackland AFB, TX, ⁴Wright State University, Fairborn, OH, ⁵South Texas Veterans Health Care System, San Antonio, TX

**MHSRS-18-1381**  
**POSTER SESSION 2 - #519**

**TEAM-TBI: A Personalized Medicine TBI Research Trial**

Presentation Author: Dr. David Okonkwo

David Okonkwo, MD, PhD¹, Anthony Kontos, PhD², Kathryn Edelman, MS³, Allison Borraso, MS³, Jane Sharpless, MS³, Dana Williams, MS³, Dan Pultz, USMC¹, Ava Puccio, RN, PhD¹, Steven Benso, RN, BSN, CCRNP³, Ryan Soose, MD¹, Ron Poropatich, MD¹, Sue Beers, PsyD², Nora Presson, PhD³, Anne Mucha, PT, DPT, MS, NCS³, CAPT Thomas Johnson, MD³, Walter Schneider, PhD³, & Michael Collins, PhD³

¹University of Pittsburgh, Pittsburgh, PA, ²Intrepid Spirit Concussion Recovery Center, Camp Lejeune, NC

**MHSRS-18-1427**  
**POSTER SESSION 2 - #520**

**Methodology & Challenges in Implementing a Multi-Site Post-Traumatic Headache Study**

Presentation Author: Ms. Rose Braue

Rose Braue¹,², Emma Gregory¹,², Shandi Watts¹,²,⁵, Ann Marie Drennon¹,²,⁷, Sandra Escolas¹,²,⁵, Scot Engel⁵, Saafan Malik², Sean Sebesta², Daniel Beauchamp², Conethra Burt-Kelley⁴,⁵, Adriana Rico⁴,⁵, Ann Scher⁴, Sidney R. Hinds II⁸,⁹

¹Defense & Veterans Brain Injury Center, Silver Spring, MD, ²General Dynamics Health Solutions, Fairfax, VA, ³Uniformed Services University of the Health Sciences, Bethesda, MD, ⁴Fort Bliss Intrepid Spirit Center, Fort Bliss, TX, ⁵Fort Hood Intrepid Spirit Center, Fort Hood, TX, ⁶Henry M. Jackson Foundation for the Advancement of Military Medicine, Bethesda, MD, ⁷Cherokee Nation Technology Solutions, Catoosa, OK, ⁸Department of Defense/United States Army Medical Research & Materiel Command, Fort Detrick, MD
MHSRS-18-1429  POSTER SESSION 2 - #521
Acute Cerebral Blood Flow Changes Reflect Microglial Activation & Inflammatory Signaling After Repetitive Mild TBI
Presentation Author: Dr. Levi Wood
Sitara Sankar¹, Alyssa Pybus¹, Amanda Liew², Bharat Sanders¹, Erin M. Buckley¹,², Levi Wood¹,²
¹Georgia Institute of Technology & Emory University, Atlanta, GA, ²Georgia Institute of Technology, Atlanta, GA, ³School of Medicine, Emory University, Atlanta, GA

MHSRS-18-1531  POSTER SESSION 2 - #522
Serum Mass Profiling & Phenotype Monitoring of Traumatic Brain Injury (TBI) & Post-Concussion Sequelae Including Chronic Migraine (CM) Headache
Presentation Author: Dr. James Couch
James Couch, MD, PhD¹, James Hocker, MS², Megan Learner, MS³, Jay Hanas, PhD¹
¹Oklahoma University Health Sciences Center, Oklahoma City, OK, ²Oklahoma City Veterans Administration Hospital, Oklahoma City, OK

MHSRS-18-1575  POSTER SESSION 2 - #523
Characteristics Distinguishing Special Operational Forces (SOF) Personnel from Non-SOF Peers with Traumatic Brain Injury: Retrospective Analysis of Data from the VA TBI Model Systems
Presentation Author: Dr. Tracy Kretzmer
Tracy Kretzmer, PhD¹, Laura Bajor, DO¹,¹, Marc A. Silva, PhD¹,², Blesser Eappen, MD¹,², Tamara McKenzie-Hartmann, PhD¹, Heather G. Belanger, PhD¹,², Risa Nakase-Richardson, PhD³
¹James A. Haley Veterans’ Hospital, Tampa, FL, ²University of South Florida, Tampa, FL, ³Harvard Medical School, Boston, MA, ⁴South Texas Veterans Health Care System, San Antonio, TX, ⁵University of Texas Health-San Antonio, San Antonio, TX

MHSRS-18-1648  POSTER SESSION 2 - #524
Progressive Return to Activity Following Concussion: The Influence of an Educational Intervention on Provider Practice & the Role of Patient Education on Outcomes
Presentation Author: Dr. Keith Stuessi
Keith A. Stuessi, MD¹,³, Jason Bailie, PhD¹,³, Rosemary Remigio-Baker, PhD, MPH¹,³, Emma Gregory, PhD¹,³, Therese A. West, DNP³, ¹Wes Cole, PhD¹,³, Amy Cecchini, MS, DPT¹,³, Marianna Jolly¹,³, Taylor R. Andrews, BA¹,³, Mark Ettenhofer, PhD¹,³, Karen L. McCulloch, PT, PhD¹,³, Felicia Qashu, PhD¹,³, LCDR Lynita Mullins, MC, USN¹
¹Defense & Veterans Brain Injury Center, Silver Spring, MD, ²General Dynamics Health Solutions, Silver Spring, MD, ³General Dynamics Health Solutions, Silver Spring, MD, ⁴Naval Hospital Camp Pendleton, Camp Pendleton, CA, ⁵US Army Medical Research & Material Command, Fort Detrick, MD, ⁶The University of North Carolina at Chapel Hill, Chapel Hill, NC, ⁷Venesco LLC, Chantilly, VA, ⁸Womack Army Medical Center, Fort Bragg, NC, ⁹Naval Medical Center San Diego, San Diego, CA, ¹⁰National Institutes of Health, Bethesda, MD

MHSRS-18-1660  POSTER SESSION 2 - #525
Imaging Biomarkers for TBI Detection & Monitoring
Presentation Author: Dr. Matthew Downs
Matthew E. Downs¹, Kathryn Keenan², Stephen Russek³, Joseph Dagher¹
¹The MITRE Corporation, McLean, VA, ²National Institute of Standards & Technology, Gaithersburg, MD

MHSRS-18-1665  POSTER SESSION 2 - #526
Military-Specific Normative Data for Cognitive & Motor Single- & Dual-Task Assessment Modules for Use in Mild Traumatic Brain Injury Assessment
Presentation Author: Dr. Jay Alberts
Jay Alberts, PhD, Nicole Zimmerman, MS, Susan Linder, DPT
**MHSRS-18-1685**  
**POSTER SESSION 2 - #527**  
**Post-Traumatic Neuroanatomical Changes Identified in Large Scale Image Analysis are Predictive of Patient Outcomes**  
Presentation Author: Dr. Jeffrey Cole  
Santosh Srinivasaiah, Chandler Rhodes, PhD, Daniel Bryden, Jeffrey Cole  
Booz Allen Hamilton, McLean, VA

**MHSRS-18-1706**  
**POSTER SESSION 2 - #528**  
**Reaction Time Variability in Service Members With & Without Acute mTBI**  
Presentation Author: Mr. Jacques Arrieux  
Jacques Arrieux, MA\(^1\), Katie Russell, MS\(^1\), F. Jay Haran, PhD\(^2\), Wesley Cole, PhD\(^3\)  
\(^1\)Womack Army Medical Center, Fort Bragg, NC, \(^2\)Defense & Veterans Brain Injury Center, Fort Bragg, NC, \(^3\)General Dynamics Health Solutions, Fairfax, VA

**MHSRS-18-1743**  
**POSTER SESSION 2 - #529**  
**Assessing Change in Neurobehavioral Symptoms Throughout Treatment at Intrepid Spirit Concussion Recovery Center Using Naval Medical Center Camp Lejeune’s Novel Clinical Research Database**  
Presentation Author: Mrs. Angela Sutherland  
Angela Sutherland, MPH, Tabitha Alverio, MA, Dana Onifer, MD  
Naval Medical Center, Camp Lejeune, NC

**MHSRS-18-1780**  
**POSTER SESSION 2 - #530**  
**Hippocampal Volume & Executive Function in a Military & Civilian Population**  
Presentation Author: Ms. Zena Kirby  
Zena Kirby\(^1\,2\), Kerri Dunbar\(^1\,3\), Annabel Lee Raboy\(^1\,2\,4\), Doren Walker\(^1\,2\), Patricia Taylor\(^1\,2\,4\), Melissa Guerra, MD\(^1\,3\), Michael J. Roy, MD, MPH\(^1\,4\)  
\(^1\)Uniformed Services University of the Health Sciences, Bethesda, MD, \(^2\)Henry M. Jackson Foundation, Bethesda, MD, \(^3\)Carolina Headache Institute, Durham, NC, \(^4\)Walter Reed National Military Medical Center, Bethesda, MD

**MHSRS-18-1802**  
**POSTER SESSION 2 - #531**  
**Service Academy Longitudinal TBI Outcome Study (SALTOS)**  
Presentation Author: Mr. Michael Mellinger  
Joshua Jeffries, BS, William Roddy, BS, Justin Murphy, BA, Katherine Bach, BA, Paul Pasquina, MD

**MHSRS-18-1806**  
**POSTER SESSION 2 - #532**  
**Symptoms in Healthy Controls May Impact Performance on Computerized Neurocognitive Assessment Tools (NCATs): Lessons Learned from Normative Data & What It Means for TBI Screening & Return to Duty Assessment**  
Presentation Author: Ms. Angelica Ahrens  
Angelica P Ahrens, MBA\(^1\,2\), Wesley R Cole, PhD\(^1\,2\), Alan G Finkel, MD\(^1\,3\), Karen A Schwab, PhD\(^4\,5\)  
\(^1\)Defense & Veterans Brain Injury Center, Ft. Bragg, NC, \(^2\)Womack Army Medical Center, Ft. Bragg, NC, \(^3\)Carolina Headache Institute, Durham, NC, \(^4\)Defense & Veterans Brain Injury Center, Silver Spring, MD, \(^5\)Uniformed Services University of the Health Sciences, Bethesda, MD

**MHSRS-18-1809**  
**POSTER SESSION 2 - #533**  
**Improvements in PTS & Alcohol Consumption Profiles Following Targeted Intervention for Chronic Traumatic Brain Injury: A TEAM-TBI Study**  
Presentation Author: Ms. Allison Borrasso  
Allison Borrasso, MS, Kathryn Edelman, MS, Sue R. Beers, PhD, Yuefang Chang, PhD, Ava Puccio, PhD, Matthew Mesley, MD, Dan Pultz USMC, David Okonkwo, MD, PhD  
University of Pittsburgh, Pittsburgh, PA
MILITARY HEALTH SYSTEM RESEARCH SYMPOSIUM

MHSRS-18-1848  POSTER SESSION 2 - #534
Design of a Novel Closed-Loop System to Deliver Neurostimulation During Clinical Rehabilitative Therapy After Brain Injury
Presentation Author: Dr. David Pruitt
Eric Meyers, PhD, Katy Millay, Michael Kilgard, PhD, Robert Rennaker, PhD, Seth Hays, PhD

MHSRS-18-1850  POSTER SESSION 2 - #535
Benzodiazepine Prescription Patterns After Mild Traumatic Brain Injury in US Military Service Members
Presentation Author: Ms. Lauren Earyes
Lauren Earyes, MPH, Yll Agimi, PhD, Katherine Stout, DPT
Defense & Veterans Brain Injury Center, Silver Spring, MD

MHSRS-18-1865  POSTER SESSION 2 - #536
Delayed & Incomplete Recovery After Concussion
Presentation Author: Dr. Thomas McAllister
TW McAllister1, B Katz2, M McCrea2, SP Broglio3
1Indiana University School of Medicine, Indianapolis, IN, 2Medical College of Wisconsin, Milwaukee, WI, 3University of Michigan, Ann Arbor, MI

MHSRS-18-1890  POSTER SESSION 2 - #537
The Bethesda Eye & Attention Measure (BEAM) is More Sensitive than Traditional Neuropsychological Measures in Active Duty Patients with Mild or Moderate Traumatic Brain Injury
Presentation Author: Dr. Lars Hungerford
Lars Hungerford, PhD, Mark Ettenhofer, PhD, Vindhya Ekanayake, MS
Naval Medical Center San Diego, San Diego, CA

MHSRS-18-1931 - POSTER SESSION 2 - #538
Decreased Exosomal MicroRNA-7844-5p as a Potential Biomarker of Repetitive Head Impact
Presentation Author: Mr. Eric Muñoz
Eric R. Munoz, MS1, Carina M. Pautz, MS1, Brittany E. Wilson, PhD2, Carolina T. Caban, BS3, John E. Jeka, PhD1, Joshua T. Selsby, PhD3, Matthew B. Hudson, PhD1
1University of Delaware, Newark, DE, 2Temple University, Philadelphia, PA, 3Iowa State University, Ames, IA

MHSRS-18-1936  POSTER SESSION 2 - #539
Portable Warrior Test of Tactical Agility – Validation with a ROTC Cadet Population
Presentation Author: Ms. Julianna Prim
Julianna Prim, MS1, Karen L. McCulloch, PT, PhD, NCS1, Oleg V. Favorov, PhD4, Olcay Kursun, PhD2
1University of North Carolina at Chapel Hill, Chapel Hill, NC, 2University of Central Arkansas, Conway, AR

OPEN  POSTER SESSION 2 - #540

MHSRS-18-1948  POSTER SESSION 2 - #541
CT & MRI Prognostic Biomarkers for 3-Month Outcome in Mild Traumatic Brain Injury: A TRACK-TBI Study
Presentation Author: Dr. Esther Yuh
Esther L. Yuh, MD, PhD1, Harvey S. Levin, PhD2, Sabrina R. Taylor, PhD2, Xiaoying Sun, MS3, Christine L, Mac Donald, PhD4, Nancy R. Temkin, PhD4, Joseph T. Giacino, PhD5, Amy J. Markowitz, JD5, Pratik Mukherjee, MD, PhD4, Sureyya Dikmen, PhD4, Sonia Jain, PhD5, Geoffrey T. Manley, MD, PhD5, TRACK-TBI Investigators
1University of California at San Francisco, San Francisco, CA, 2Baylor College of Medicine, Houston, TX, 3University of California at San Diego, La Jolla, CA, 4University of Washington, Seattle, WA, 5Harvard Medical School, Boston, MA
MHSRS-18-1964  POSTER SESSION 2 - #542
Diagnostic Utility of Plasma Glial Fibrillary Acidic Protein (GFAP) for Identification of Traumatic Brain Injury Patients with MRI Abnormalities Despite a Normal Head CT: A TRACK-TBI Study
Presentation Author: Mr. John Yue
John K. Yue, BA1,2, Frederick K. Korley, MD, PhD3, Winward Choy, MD1,2, Ross C. Puffer, MD4,5, Ethan A. Winkler, MD, PhD1,2, Hansen Deng, BA1,2, Sabrina R. Taylor, PhD, CCRP1,2, Adam R. Ferguson, PhD1,2, J. Russell Huie, PhD1,2, Xiaoying Sun, PhD6, Sonia Jain, PhD6, Esther L. Yuh, MD, PhD1,2, Pratik Mukherjee, MD, PhD1,2, Ava M. Puccio, RN, PhD7, Kevin K. W. Wang, PhD7, Ramon Diaz-Arrastia, MD, PhD8, David O. Okonkwo, MD, PhD9, Geoffrey T. Manley, MD, PhD1,2, TRACK-TBI Investigators
1University of California San Francisco, San Francisco, CA, 2Zuckerberg San Francisco General Hospital, San Francisco, CA, 3University of Michigan, Ann Arbor, MI, 4Mayo Clinic, Rochester, MN, 5University of Pittsburgh Medical Center, Pittsburgh, PA, 6University of California San Diego, San Diego, CA, 7University of Florida, Gainesville, FL, 8University of Pennsylvania, Philadelphia, PA

MHSRS-18-2004  POSTER SESSION 2 - #543
Mild Traumatic Brain Injury History Predicts Relationship Between Reduced Grey Matter Volume & Visual-Sensory Performance in Special Operations Forces Personnel
Presentation Author: Dr. Cassie Ford
Cassie B. Ford, PhD1, Michael J. Cools, MD1, LTC Stephen M. DeLellis, MPAS, PA-C2, CPT Marshall L. Healy, APA-C2, Robert H. Lutz, MD3, COL Shawn F. Kane, MD4, COL James H. Lynch, MD5, Jason P. Mihalik, PhD, CAT(C), ATC6
1University of North Carolina, Chapel Hill, NC, 2United States Army Special Operations Command, Fort Bragg, NC, 3Duke University, Durham, NC, 4University of Florida, Gainesville, FL, 5Special Warfare Medical Group, Fort Bragg, NC

MHSRS-18-2046  POSTER SESSION 2 - #544
Computing Amount of Midline Shift in Traumatic Brain Injury
Presentation Author: Dr. Mohsen Hooshmand
SM Reza Soroushmehr1,2, Craig Williamson1, Jonathan Gryak1, Kayvan Najarian1,2
1University of Michigan, Ann Arbor, 2Michigan Center for Integrative Research in Critical Care

MHSRS-18-2049  POSTER SESSION 2 - #545
Gender-related Differences in Symptomatology & Healthcare Utilization by Active Duty Service Members with Comorbid mTBI & PTSD
Presentation Author: CDR Lalon Kasuske
CDR Lalon Kasuske, PhD1, Tim Wu, MD2, Jesus J. Caban, PhD2
1Naval Medical Center Portsmouth, Portsmouth, VA, 2Walter Reed National Military Medical Center Bethesda, MD

MHSRS-18-2109  POSTER SESSION 2 - #546
Automatic Quantification of TBI Related Tract Damage with High Definition Fiber Tracking (HDFT) in MRI Diffusion of Tracts in Blast & Civilian Trauma
Presentation Author: Dr. Walter Schneider
Kate Fissell1, Kristofer Pomiecko1, Rebecca Hachey2, Kelly Glavin1, Sudhir Pathak1, Sue Beers2, Cara Battistella, Allison Borraso, Ava Puccio, Kathryn Edelman, David Okonkwo, Walter Schneider1,2
1University of Pittsburgh, Pittsburg PA, 2University of Pittsburgh Medical Center, Pittsburg PA

MHSRS-18-2111  POSTER SESSION 2 - #547
Identification of microRNA Biomarkers in Serum & Cerebrospinal Fluid After Traumatic Brain Injury & Correlation with Outcome of the Injury
Presentation Author: Dr. Manish Bhomia
Manish Bhomia, PhD1, Manoshi Gayen, PhD1, Zhao Zhang Li, MD1, Kevin K. W. Wang, PhD2, Barbara Knollmann-Ritschel, MD1
1Uniformed Services University of the Health Sciences, Bethesda, MD, 2University of Florida, Gainesville, Florida
MHSRS-18-2118  POSTER SESSION 2 - #548
Deployment-related Traumatic Brain Injury & Behavioral Health in United States Marines
Presentation Author: Dr. Jessica Morgan
Jessica Kelley Morgan, PhD, Joel K Cartwright, MS, Alison Levin-Rector, MPH, Pamela K Lattimore, PhD
RTI International, Research Triangle Park, NC

MHSRS-18-2127  POSTER SESSION 2 - #549
Ground Truth Calibration of Diffusion Imaging for TBI - Assessment of Quantitative Magnetic Resonance Imaging Metrics in the Brain through the Use of a Novel Phantom
Presentation Author: Dr. Walter Schneider
Walter Schneider ¹, Michael Boss ², Elisabeth Wilde³, Brian Taylor⁴, James Provenzale⁵, Sudhir Pathak⁶, Anthony Zuccolotto¹, David Okonkwo³
¹University of Pittsburgh, Pittsburgh, PA, ²National Institute of Standards & Technology, Boulder, CO, ³Michael E. DeBakey VA Medical Center, Houston, TX, University of Utah, ⁴Virginia Commonwealth University, Alexandria, VA, ⁵Duke University Medical Center, Durham, NC, ⁶Psychology Software Tools Inc, Pittsburgh, PA

MHSRS-18-2146  POSTER SESSION 2 - #550
Nonlinear Analysis Using Detrended Fluctuation Analysis of Heart-Rate Variability in Service Members with Post-Concussive Symptoms from Mild Traumatic Brain Injury (mTBI) treated with Hyperbaric Oxygen (HB02)
Presentation Author: Dr. Susan Mirow PhD, MD
Susan Mirow, PhD, MD ¹, Ointo Linares, PhD²,³,⁴, Susan Churchill, APRn⁴, Lindell K. Weaver MD¹,²
¹University of Utah School of Medicine, Salt Lake City, UT, ²Lovelace, Albequerque, NM, ³Avalon Data, LLC, McKinney, TX, ⁴Intermountain Medical Center, Murray, UT

MHSRS-18-2173  POSTER SESSION 2 - #551
Veterans with a History of mTBI Demonstrate Impaired Vestibular & Balance Function That Can Be Improved with Subsensory Neuromodulation
Presentation Author: Dr. Jorge Serrador
Jorge Serrador, PhD¹, Scott Wood, PhD², Kelly Brewer, MS¹, Paul Breen, PhD³, Michael Schubert, PhD⁴
¹Rutgers Biomedical Health Sciences, Newark, NJ & Dept of Veteran Affairs, East Orange, NJ, ²Azusa Pacific University, Azusa, CA, ³Western Sydney University, Sydney, Australia, ⁴Johns Hopkins School of Medicine, Baltimore, MD

IMPROVING PRE-CLINICAL MODELS OF TRAUMATIC BRAIN INJURY
OPEN  POSTER SESSION 2 - #552

MHSRS-18-0518  POSTER SESSION 2 - #553
DR 1-MOG-35-55 Treatment Reduces Lesion Volumes & Improves Neurological Deficits After Traumatic Brain Injury
Presentation Author: Dr. Arthur Vandenbark
Arthur Vandenbark, PhD¹, Halina Offner, DrMed¹,²
¹VA Portland Health Care System, Portland, OR, ²Oregon Health & Science University, Portland, OR

MHSRS-18-0529  POSTER SESSION 2 - #554
High-Throughput Pharmacokinetic Modeling with Dynamic In Vitro Blood-Brain Barrier System & its Use in Traumatic Brain Injury
Presentation Author: Mr. Aaron Dadas
Aaron Dadas, Damir Janigro Flocel, Inc, Cleveland, OH
MHSRS-18-0673 POSTER SESSION 2 - #555
Microbiome Signatures Associated with Rodent Model of Traumatic Brain Injury Versus Psychological Stress
Presentation Author: Dr. Aarti Gautam
1US Army Center for Environmental Health & Research, Frederick, MD, 2Walter Reed Army Institute of Research, Silver Spring, MD, 3The Geneva Foundation, US Army Center for Environmental Health & Research, Frederick, MD, 4Frederick National Lab for Cancer Research, Frederick, MD

MHSRS-18-0798 POSTER SESSION 2 - #556
Chronic Mil Traumatic Brain Injury Altered Serum microRNAs & Their Association with Fear Behavior of Posttraumatic Stress Disorder
Presentation Author: Dr. Nagaraja Sethuraman Balakathiresan
Nagaraja S Balakathiresan1, Manish Bhomia1, Anna E. Tschiffely2, Richard McCarron1,2, Stephen T Ahlers2, Barbara Knollmann-Ritschel1
1Uniformed Services University of the Health Sciences, Bethesda, MD, 2Naval Medical Research Center, Silver Spring, MD

MHSRS-18-0867 POSTER SESSION 2 - #557
Designing a Fully Biomimetic 3D Organ Culture to Test the Preclinical Efficacy of Therapies for Blast Injury
Presentation Author: Dr. Joseph Arboleda-Velasquez
Joseph F. Arboleda-Velasquez, MD, PhD, Diana M. Sanchez-Palencia, PhD, Petr Baranov, MD, Magali Saint-Geniez, PhD
Medical School, Boston, MA

MHSRS-18-0890 POSTER SESSION 2 - #558
The Epigenetic Histone Deacetylase Inhibitor Sodium Butyrate Reduces Epileptogenesis & Mossy Fiber Sprouting After Traumatic Brain Injury in Mice
Presentation Author: Dr. Samba Reddy
Doodipala Samba Reddy, Victoria Golub
Texas A&M University College of Medicine, Bryan, TX

MHSRS-18-0892 POSTER SESSION 2 - #559
The Epigenetic Histone Deacetylase Inhibitor Sodium Butyrate Improves Long-Term Behavior & Neuropathology After Traumatic Brain Injury in Mice
Presentation Author: Dr. Victoria Golub
Victoria Golub, Doodipala Samba Reddy
Texas A&M University College of Medicine, Bryan, TX

MHSRS-18-1015 POSTER SESSION 2 - #560
Deleterious Effects of Hyperhomocysteinemia Induced Physiological Stress on Traumatic Brain Injury Neuropathology in a Rat Model of Controlled Cortical Impact
Presentation Author: Dr. Flaubert Tchantchou
Gary Fiskum, PhD1, Catriona Miller, PhD2, Molly Goodfellow, PhD2
1University of Maryland School of Medicine, Baltimore, MD, 2US Air Force c-STARS Baltimore, Baltimore, MD

MHSRS-18-1036 POSTER SESSION 2 - #561
A Translational Animal Model Platform for the Preclinical Assessment of Therapeutics for Severe TBI
Presentation Author: Dr. Lohitash Karumbaiah
Lohitash Karumbaiah, PhD, Franklin D. West, PhD, Steven L. Stice, PhD
University of Georgia, Athens, GA
MHSRS-18-1046  POSTER SESSION 2 - #562
Validation of Human Neurosensory Assessments of mTBI with a Neurophysiological Animal Model
Presentation Author: Dr. Oleg Favorov
Oleg V. Favorov, PhD1, Andrew P. Brna, PhD1, Timothy Challener, BS1, Eric Francisco, PhD2, Laila Zai PhD3, Mark Tommerdahl, PhD1,2
1University of North Carolina at Chapel Hill, Chapel Hill, NC, 2Cortical Metrics, LLC, Carrboro, NC, 3Applied Research Associates, Inc, Albuquerque, NM

MHSRS-18-1097  POSTER SESSION 2 - #563
A Novel Design of an Experimental Apparatus to Generate Dynamic Pressure Loading for Simulating Blast Exposure for a Brain Tissue Specimen
Presentation Author: Mr. Suhas Vidhate
Suhas Vidhate1, Atacan Yucesoy1, Thomas J. Pence, PhD1, Adam M. Willis, MD, PhD1,3 & Ricardo Mejia-Alvarez, PhD1
1Michigan State University, East Lansing, MI, 2San Antonio Military Medical Center, Fort Sam Houston, TX, 3University of Texas Southwestern, Dallas, TX

MHSRS-18-1110  POSTER SESSION 2 - #564
A Combat Relevant Model of Traumatic Brain Injury Due to Direct Blunt & Penetrating Trauma to the Head
Presentation Author: Dr. Jae Hyek Choi
Jae Hyek Choi, PhD, DVSc1, Alexander Dixon, BS1, Kyle Sieck, BS1, Teryn Roberts, MS1,2, George Harea, BS1, Vitali Karaliou, MD1, Daniel Wendorff, BS1, Brendan Beely, RRT1, Paul Attar, PhD3, Andrei Batchinsky, MD1,2
1The Geneva Foundation, Tacoma, WA, 2Morsani College of Medicine, University of South Florida, Tampa, FL, 3Bridge Preclinical Testing Services, San Antonio, TX

MHSRS-18-1130  POSTER SESSION 2 - #565
Addressing Knowledge Gaps: A Cellular Model to Study TBI, Biomarkers of Injury, Mechanism of Repair, Interventions & Neurodegeneration
Presentation Author: Dr. Daryl Preece
Daryl Preece, PhD1, Veronica Gomez-Godinez, PhD1, L Shi, PhD1, N Wakida, PhD2, MW Berns1,2
1University California San Diego, La Jolla, CA, 2University California Irvine, Irvine, CA

MHSRS-18-1236  POSTER SESSION 2 - #566
High-Speed Biplane X-ray Head Impact Experiments in the Göttingen Minipig
Presentation Author: Dr. Elizabeth McNeil
Elizabeth McNeil, PhD1, Allison Guettler, MS1, Pamela VandeVord, PhD1,2, Warren Hardy, PhD1
1Virginia Tech Center for Injury Biomechanics, Blacksburg, VA, 2Salem VA Medical Center, Salem, VA

MHSRS-18-1305  POSTER SESSION 2 - #567
Blast-Induced Traumatic Brain Injury (TBI) Gives Rise to Early Seizures in Mice
Presentation Author: Dr. James Lechleiter
Eda Bozdemir, MD1, Vladislav Bugay, PhD1, Fabio Antonio Borges Vigil, PhD1, Sang H. Chun1, Deborah M. Holstein1, Rowe Elliott1, Cassie Sprague1, Gregory Rule1, Jose Cavazos, MD1, Theodore Liston, PhD1, Mark Shapiro, PhD1, Brian Lund, PhD1, Robert Brenner, PhD1, James Lechleiter, PhD1
1UT Health San Antonio, San Antonio, TX, 2US Army Institute of Surgical Research, Fort Sam Houston, San Antonio, TX, 3Applied Research Associates, San Antonio, TX, 4Astrocyte Pharmaceuticals, Cambridge, MA

MHSRS-18-1383  POSTER SESSION 2 - #568
Blast Traumatic Brain Injury: Developing Personalized 3D Computational Models for use in High-Fidelity Blast Physics Simulations using Human MRI Scans
Presentation Author: CAPT Paul Elsbernd
CAPT Paul M. Elsbernd, MD, MS1, Candice F. Cooper, MS2, Adam M. Willis, MD, PhD1,3,4
1San Antonio Military Medical Center, Fort Sam Houston, TX, 2Sandia National Laboratories, Albuquerque, NM, 3Michigan State University, East Lansing, MI, 4University of Texas Southwestern, Dallas, TX
MHSRS-18-1395 POSTER SESSION 2 - #569
Experimental Study of the Mechanics of Blast-Induced Traumatic Brain Injury
Presentation Author: Dr. Ricardo Mejia-Alvarez
Ricardo Mejia-Alvarez, PhD, Joseph Kerwin, PhD, Suhas Vidhate, PhD, Faezeh Masoomi, PhD, Michaelann Tartis, PhD, Adam M. Willis, MD, PhD
1Michigan State University, East Lansing, MI, 2New Mexico Institute of Mining & Technology, Socorro, NM, 3San Antonio Military Medical Center, Fort Sam Houston, TX, 4University of Texas Southwestern, Dallas, TX

MHSRS-18-1407 POSTER SESSION 2 - #570
Vascular Repair Through Angiogenesis is Evident Following Penetrating Type Brain Injury
Presentation Author: Dr. Sindhu Madathil
Sindhu Madathil, PhD, Bernard Wilfred, PhD, Savannah Baranikov, MS, Sarah Urankar, MS, Xiaofang Yang, MD, Janice Gilsdorf, PhD, Shear Deborah, PhD
Walter Reed Army Institute of Research, Silver Spring, Maryland

MHSRS-18-1473 POSTER SESSION 2 - #571
Augmenting KCNQ (Kv7) M-Current as a Preventative for Cerebral Damage & Cognitive Dysfunction After Traumatic Brain Injury
Presentation Author: Ms. Liliana Espinoza
Liliana Espinoza, Fabio A. Borges Vigil, PhD, Eda Bozdemir, MD, Rafael J. Veraza, MS, Sang H. Chun, Deborah M. Holstein, Isamar Sanchez, MaryAnn Hobbs, Vladislav Bugay, PhD, James D. Lechleiter, PhD, Robert Brenner, PhD, Mark S. Shapiro, PhD
UT Health San Antonio, San Antonio, TX

MHSRS-18-1498 POSTER SESSION 2 - #572
Role of Wnt/Beta-Catenin Signaling in the Injured Cerebral Vasculature After Traumatic Brain Injury
Presentation Author: Dr. Andre Obenaus
Andre Obenaus, Arjang Salehi, Amandine Jullienne, Mary Hamer
1University of California Irvine, Irvine, CA, 2University of California Riverside, Riverside, CA, 3Loma Linda University, Loma Linda, CA

MHSRS-18-1594 POSTER SESSION 2 - #573
Time-Course of Brain Mitochondrial Bioenergetics Dysfunction Following Penetrating Traumatic Brain Injury
Presentation Author: Dr. Jignesh Pandya
Jignesh D. Pandya, William Jesse Fierlaque, Xiaofang Yang, Hye Mee Hwang, Ying Deng-Bryant, Lai Yee Leung, Deborah A. Shear
Walter Reed Army Institute of Research, Silver Spring, MD

MHSRS-18-1598 POSTER SESSION 2 - #574
Profile of Microglial Activation States Following Single or Repeated Closed-Head Concussive Impact Injury in Rats
Presentation Author: Dr. Bernard Srambical Wilfred
Bernard Wilfred, PhD, Sindhu Madathil, PhD, Sarah Urankar, MS, Weihong Yang, MD, Lai Yee Leung, PhD, Janice Gilsdorf, PhD, Shear Deborah, PhD
Walter Reed Army Institute of Research, Silver Spring, MD

MHSRS-18-1684 POSTER SESSION 2 - #575
The Effect of Specimen Location & Cross-Sectional Area on the Distribution of Surface Pressure Under Shock Wave Loading Conditions
Presentation Author: Dr. Maciej Skotak
Jose J. Rodriguez, Eren Alay, Maciej Skotak, PhD, James Q. Zheng, PhD, Virginia Halls, Namas Chandra, PhD
1New Jersey Institute of Technology, Newark, NJ, 2United States Army, Fort Belvoir, VA
MHSRS-18-1749  POSTER SESSION 2 - #576
Topiramate Lowers Seizure Activities in a Rat Model
Presentation Author: Dr. Jenny Browning
Jenny Browning, Christopher Powels, Janice Gilsdorf, Deborah Shear, Xi-Chun Lu
Walter Reed Army Institute of Research, Silver Spring, MD

MHSRS-18-1788  POSTER SESSION 2 - #577
Frequent Projectile Concussive Impact Injuries Induce Behavioral & Cognitive Deficits
Presentation Author: Dr. Adem Can
Adem Can, Jignesh D. Pandya, Lai Yee Leung, Angela M. Boutté, Weihong Yang, Deborah A. Shear
Walter Reed Army Institutes of Research, Silver Spring, MD

MHSRS-18-1845  POSTER SESSION 2 - #578
Ethosuximide & Gabapentin Combination Therapy Failed to Achieve Synergistic Effects against Post-Traumatic Non-Convulsive Seizures Induced by Penetrating Brain Injury in Rats
Presentation Author: Dr. Xi-Chun Lu
Xi-Chun M. Lu, Ying Cao, Zhilin Liao, Jenny Browning, Janice Gilsdorf, Deborah Shear
Walter Reed Army Institute of Research, Silver Spring, MD

MHSRS-18-1988  POSTER SESSION 2 - #579
Combined Computational & Experimental Methods to Understand Traumatic Brain Injury Mechanisms in Primary Blast Loading Conditions
Presentation Author: Dr. Molly Townsend
MT Townsend, PhD, E Alay, MS, M Skotak, PhD, N Chandra, PhD
New Jersey Institute of Technology, Newark, NJ

MHSRS-18-1998  POSTER SESSION 2 - #580
Synergistic Roles of Oxidative Stress & Blood-Brain Barrier Permeability as Potential injury Mechanisms in Blast-Induced Neurotrauma
Presentation Author: Mr. Matthew Kuriakose
Matthew Kuriakose, Kakulavarapu V. Rama Rao, Namas Chandra
New Jersey Institute of Technology, Newark, NJ

MHSRS-18-2001  POSTER SESSION 2 - #581
Microglia Interaction with the Blood Brain Barrier Following Blast TBI: Role of NLRP3 Inflammasome
Presentation Author: Mr. Daniel Younger
Daniel Younger, Kakulavarapu V. Rama Rao, Arun Reddy Ravula, Namas Chandra
New Jersey Institute of Technology, Newark, NJ

MHSRS-18-2048  POSTER SESSION 2 - #582
Nanoelectroporated Cells Mediate Brain Repair After Injury
Presentation Author: Dr. Natalia Higuita-Castro
Natalia Higuita-Castro, PhD, Jordan Moore, BS, Maria Balch, BS, Hallie N. Harris, BS, William Laurence, BS, Richard Steward, BS, Alec Sunyecz, BS, Chandan K. Sen, PhD, Savita Khanna, PhD, Cameron Rink, PhD, Daniel Gallego-Perez, PhD

MHSRS-18-2054  POSTER SESSION 2 - #583
Elovanoids are Neuroprotective in Experimental Ischemic Stroke & in Traumatic Brain Injury (TBI)
Presentation Author: Dr. Nicolas Bazan
Nicolas G. Bazan, MD, PhD, Sayantani Bhattacharjee, PhD, Jessica Heap, BS, Ludmila Belayev, MD, Nicolas Petasis, PhD
School of Medicine, LSU Health New Orleans, New Orleans, LA

OPEN  POSTER SESSION 2 - #584
**PRE-HOSPITAL EVALUATION & CARE of MODERATE/SEVERE TBI IN THE AUSTERE ENVIRONMENT**

**MHSRS-18-0152 POSTER SESSION 2 - #585**  
Intranasal Cooler for Encephalopathy Prevention in Combat Casualties  
Presentation Author: Dr. Ryan Myers  
Ryan T. Myers, PhD, Ryan Binette, Ian Cohen, Gordon Hirschman  
Vivonics, Inc, Bedford, MA

**MHSRS-18-0376 POSTER SESSION 2 - #586**  
Acute Physiological Changes Following Neurotherapeutic Resuscitation in a Rat Model of Traumatic Brain Injury Combined with Hemorrhagic Shock  
Presentation Author: Dr. Lai Yee Leung  
Lai Yee Leung, PhD1,2, Katherine Cardiff, BS1, Xiaofang Yang, BS1, Janice Gilsdorf, PhD1, Deborah Shear, PhD1, Patrick M. Kochanek, MD2  
1Walter Reed Army Institute of Research, Silver Spring, MD, 2University of Pittsburgh, Pittsburgh, PA

**MHSRS-18-0614 POSTER SESSION 2 - #587**  
Monitoring Traumatic Brain Injury Patients Using Transocular Brain Impedance (TBI)  
Presentation Author: Dr. M. Hakam Tiba  
M. Hakam Tiba, MD, MS, Krishna Rajajee, MD, Craig Williamson, MD, Ashwin Belle, PhD, Sardar Ansari, PhD, Brandon Cummings, BS, Brendan McCracken, BS, Amanda Pennington, MS, Kevin Ward, MD University of Michigan, Ann Arbor, MI

**MHSRS-18-0630 POSTER SESSION 2 - #588**  
Automated Eye Tracking for Detection of Blast Brain Injury After a Natural Gas Explosion  
Presentation Author: Dr. Rosina Samadani  
Rosina Samadani PhD1, Abdullah Bin Zahid MD2,3, Maxwell Thorpe2, Christina Smith2, Caleb Hoover2, Erik Warren2, Radhika Edpuganti2, Shivani Venkatesh2, Dylan Sturtevant2, Aliya Ahmadi2, Olivia Newgaard2, David Balser2, Rebekah Kroll2, Uzma Samadani MD PhD2,3  
1Oculogica, Inc, New York, NY, 2Hennepin County Medical Center, Minneapolis, MN, 3University of Minnesota & Minneapolis VA Medical Center, Minneapolis, MN

**MHSRS-18-0734 POSTER SESSION 2 - #589**  
A Signal Processing Approach for the Calculation of a Bioimpedance Index in the Assessment of Cerebrovascular Autoregulatory Status  
Presentation Author: Mr. Brandon Cummings  
Brandon Cummings, BS, Brendan McCracken, BS, Chandler Rygalski, BS, Ashwin Belle, PhD, Kevin Ward, MD, M. Hakam Tiba, MD, MS  
University of Michigan - Ann Arbor & Michigan Center for Integrative Research in Critical Care, Ann Arbor, MI

**MHSRS-18-0991 POSTER SESSION 2 - #590**  
Utilization of the Brainscope Ahead 300 in an Airborne Joint Forcible Entry Exercise  
Presentation Author: MAJ James Falcon  
MAJ James Falcon, MC, MAJ Jessica Homine, SP CPT Robert Meadows, SP CPT Christopher Grace, MC  
1st Brigade Combat Team, 82nd Airborne, Fort Bragg, NC
MHSRS-18-1009  POSTER SESSION 2 - #591
Markers of Endothelial Dysfunction are Associated with Progression of Intracranial Hemorrhage after Traumatic Brain Injury
Presentation Author: Dr. Holly Hinson
Chinar Agarwal, MD, Loren Myers, BS, Holly E. Hinson, MD, MCR
Oregon Health & Science University, Portland, OR

MHSRS-18-1054  POSTER SESSION 2 - #592
Impact of Time to Transport on Clinical Outcomes of Patients with Traumatic Brain Injury (TBI) Following Evacuation from Theater via Critical Care Air Transport Teams (CCATT)
Presentation Author: Dr. Allyson Arana
Allyson A. Araña, PhD, Crystal A. Perez, BSN, RN1, Lauren K. Reeves, MsPH1, Alejandra G. Mora, MS1, Shelia C. Savell, PhD, RN1, Kimberly L. Medellin, BSN, RN2, Jill D. Lear, BSN, RN1, Joni A. Paciocco, ADN, RN3, Capt William T Davis, MD, Capt William G. Holder, MD, Maj Joseph K. Maddry, MD1,2
1USAF En route Care Research Center, JBSA, TX, 2San Antonio Military Medical Center, San Antonio, TX

MHSRS-18-1151  POSTER SESSION 2 - #593
The Impact of Selective Beta-1 Adrenergic Blockade on Survival of Trauma Patients with Brain Injury
Presentation Author: Dr. Galinos Barmparas
Galinos Barmparas, MD1, Navpreet K Dhillon, MD1, Samuel D Leonard2, Bryan A Cotton, MD, MPH2, Kenji Inaba, MD3, Ali Salim, MD4, Sandro Rizoli, MD, PhD5, Eric J Ley, MD1, AAST Beta Blockers & TBI Study Group
1Cedars-Sinai Medical Center, Los Angeles, CA, 2University of Texas at Houston, Houston, TX, 3Los Angeles County & USC Medical Center, Los Angeles, CA, 4Brigham & Women’s Hospital, Boston, MA, 5St. Michael’s Hospital, Toronto, ON, Canada

MHSRS-18-1505  POSTER SESSION 2 - #594
Intracranial Hypertension Detection Using Machine Learning Classification of Non-Invasive Transcranial Doppler Waveforms
Presentation Author: Dr. Seth Wilk
Fabien Scalzo, PhD1, Ryan M. Mercer, PhD1, Seth Wilk, PhD2, Robert Hamilton, PhD2
1University of California Los Angeles, Los Angeles, California, 2Neural Analytics, Los Angeles, CA

MHSRS-18-1992 - POSTER SESSION 2 - #595
Development of a Point of Care Device to Assess Cerebral & Peripheral Health for Combat Casualty Care Using a Single Multi-sensing Forehead Sensor
Presentation Author: Dr. Walter Holbein
Walter Holbein, PhD, Marcus Kramer, PhD, Emily Barten, Aaron Lobbestael, MS, Gregory Rausch, MS
Nonin Medical, Inc.

MHSRS-18-2098  POSTER SESSION 2 - #596
Presentation Author: Mr. Zachary Osborn
TRANSLATION OF MILITARY LESSONS IN BYSTANDER BLEEDING CONTROL TO THE CIVILIAN SECTOR

**Poster Session II**

**MHSRS-18-1859**  
**POSTER SESSION 2 - #597**  
**Using Mass Casualty Characterization to Inform Preparation with Tourniquets**  
Presentation Author: CDR Nicole Hurst  
Nicole Hurst, MD, Craig Goolsby, MD  
Uniformed Services University of the Health Sciences, Bethesda, MD

**HEMORRHAGE CONTROL & RESUSCITATION**

**MHSRS-18-0022**  
**POSTER SESSION 2 - #598**  
**New & Established Models of Limb Tourniquet Compared in Simulated First Aid**  
Presentation Author: Dr. John F Newton  
Nicola J. Newton, Andy R. Tan, James K. Aden, PhD, Michael A. Dubick, PhD  
1US Army Institute of Surgical Research, JBSA, Fort Sam Houston, TX, 2Brooke Army Medical Center, JBSA, TX, 3US Military Academy, West Point, NY

**MHSRS-18-0063**  
**POSTER SESSION 2 - #599**  
**Influence of Resuscitation Fluid Type with REBOA Use in a Swine Uncontrolled Hemorrhage Model**  
Presentation Author: Dr. Michael Dubick  
Michael A. Dubick, PhD, R. De Guzman, I. Amy Polykratis, BA, M. Dale Prince, BA, SPC Jorhan Ocasio Rosa, SPC Jose Bernal, Bijan S Kheirabadi, PhD  
US Army Institute of Surgical Research, JBSA Fort Sam Houston, TX

**MHSRS-18-0201**  
**POSTER SESSION 2 - #600**  
**Multiple Coagulation Test System for Rapid Response to Coagulopathy of Trauma**  
Presentation Author: Mr. Michael Kagan  
Michael Kagan, BS, Sheldon Goldstein, MD  
1Coagulation Sciences, Dover-Foxcroft, ME, 2Coagulation Sciences, Bronx, NY

**MHSRS-18-0205**  
**POSTER SESSION 2 - #601**  
**Indices of Inflammation & Oxidant Stress in Tissues from Swine Subjected to Traumatic Hemorrhage & Treated with Small Volume Resuscitation Adjuncts**  
Presentation Author: Mr. Theo Thomas  
Theo Thomas, BS, Wenjun Martini, PhD, Johnny Barr, MS, Michael Dubick, PhD  
US Army Institute of Surgical Research, San Antonio, TX

**MHSRS-18-0225**  
**POSTER SESSION 2 - #602**  
**Thromboelastography (TEG) Versus Conventional Clotting Tests, Which Technique Predicts Bleeding Risk in a Hemorrhage Resuscitation Model?**  
Presentation Author: Dr. Bijan Kheirabadi  
Bijan S. Kheirabadi, PhD, Rodolfo De Guzman, MLT, Nahir Miranda, MS, Irasema B. Terrazas, MS, Amber N. Voelker, MS, Michael A. Dubick, PhD  
US Army Institute of Surgical Research, San Antonio, TX
**MHSRS-18-0230**  **POSTER SESSION 2 - #603**

**A Comparison Between Intravenous & Interosseous Blood Transfusion of Three Different Pediatric Pressure Transfusion Strategies in an Immature Swine (Sus scrofa) Model of Hemorrhagic Shock: A Pilot Study**

**Presentation Author:** LT William Bianchi


1Naval Medical Center Portsmouth, Portsmouth, VA, 2410 Medical, Inc, Durham, NC

**MHSRS-18-0256**  **POSTER SESSION 2 - #604**

**Pre-clinical Evaluation of SynthoPlate as an Intravenous Hemostatic Nanotechnology for Hemorrhage Control & Survival Benefit in Military-Relevant Trauma Models**

**Presentation Author:** Dr. Anirban Sen Gupta

Anirban Sen Gupta, PhD, DaShawn A. Hickman, MS, Norman Fluc, Andrew J. Shevitz, MS, Christa L. Pawlowski, PhD, Ann Kim, MD, Mitchell Dyer, MD, Vikram S. Kashyap, MD, Matthew D Neal

1Case Western Reserve University, Cleveland, OH, 2University of Pittsburgh Medical Center, Pittsburgh, PA

**MHSRS-18-0289**  **POSTER SESSION 2 - #605**

**The Effect of Prolonged Hypothermia on Extremity Ischemia in a Porcine Model (Sus scrofa) of Hemorrhage**

**Presentation Author:** CAPT Harris Kashtan

CAPT Harris Kashtan, MD, Meryl Simon, MD, Carl Beyer, MD, Andrew Wishy, MD, Guillaume Hoareau, DVM, PhD, M. Austin Johnson, MD, PhD

1David Grant Medical Center, Travis Air Force Base, Fairfield, CA, 2University of California at Davis Medical Center, Sacramento, CA

**MHSRS-18-0359**  **POSTER SESSION 2 - #606**

**Physiological Monitoring & Intervention Setup for Experimental Hemorrhagic Shock Model for Trauma- & Immune-Related Preclinical Research**

**Presentation Author:** Dr. Zhuowei Li

Zhuowei Li, PhD, John Parker, BS, Jessica Muniga, DVM, Barbara St. Pierre Schneider, PhD, RN

1University of Nevada Las Vegas, Las Vegas, NV, 2University of California Los Angeles, Los Angeles, CA

**MHSRS-18-0365**  **POSTER SESSION 2 - #607**

**Comparative Study of Submerged Hemostatic Agents Using Thromboelastography (TEG) - an In Vitro Study**

**Presentation Author:** LT Matthew Jordan

LT Matthew Jordan, USN, MD, MC, LT William Bianchi, USN, DO, MC, LT Taylor George, USN, MD, MC, Mr. Michael Boboc, Ms. Alexandra Walchak, Donna Wolf, PhD, Ramesh Natarajan, PhD, LCDR Paul Roszko, USN, MD, MC

Naval Medical Center Portsmouth, Portsmouth, VA

**MHSRS-18-0390**  **POSTER SESSION 2 - #608**

**Pre-hospital Low Titer Cold Stored Whole Blood: Philosophy for Ubiquitous Utilization of O Positive Product for Emergency Use in Hemorrhage Due to Injury**

**Presentation Author:** Ms. Caroline Zhu

Ashley McGinity, MD, Caroline Zhu, Leslie Greebon, MD, Elly Xenakis, MD, Elizabeth Waltman, MBA, Eric Epley, NREMT-P, CEM, Danielle Cobb, MD, Rachelle Jonas, RN, Susannah Nicholson, MD, Brian Eastridge, MD, Ronald Stewart, MD, Donald Jenkins, MD

1University of Texas Health Science Center at San Antonio, San Antonio, TX, 2University of Texas at San Antonio, San Antonio, TX, 3The Blood & Tissue Center, San Antonio, TX, 4South Texas Regional Advisory Council, San Antonio, TX, 5Louisiana State University School of Medicine, New Orleans, LA
**Poster Session II**

**MHSRS-18-0411** | **POSTER SESSION 2 - #609**
---|---
**A Study of Three Pressurized Intraosseous Blood Transfusion Strategies**

Presentation Author: LT Eric Sulava


Naval Medical Center Portsmouth, Portsmouth, VA

**MHSRS-18-0416** | **POSTER SESSION 2 - #610**
---|---
**Evaluation of Invertebrate Hemoglobins as Novel Blood Substitutes**

Presentation Author: Dr. Jacob Elmer

Jacob Elmer, PhD, Osheiza Abdulmalik, DVM, Devon Zimmerman, PhD, Kyle Spivack, Matthew Tucker

1Villanova University, Villanova, PA, 2Children's Hospital of Philadelphia, Philadelphia, PA

**MHSRS-18-0469** | **POSTER SESSION 2 - #611**
---|---
**Systemic & Microvascular Comparison of Lactated Ringers Solution, Vir-IV1, & Alpha Alpha Crosslinked Hemoglobin in a Rat 10% Topload Model**

Presentation Author: Dr. Bjorn Song


1Song Biotechnologies LLC, Baltimore, MD, 2VirTech Bio, Inc, Natick, MA

**MHSRS-18-0470** | **POSTER SESSION 2 - #612**
---|---
**Systemic & Microcirculatory Assessment of Severe Hemorrhagic Shock & Resuscitation Using SANGUINATE®**

Presentation Author: Dr. Bjorn Song

Bjorn K. Song, Forest Sheppard, MD, Ramon F. Cestero, MD, Pete Buontempo, MS, Ronald Jubin, PhD, Abe Abuchowski, PhD, William H. Nugent, PhD

1Song Biotechnologies, Baltimore, MD, 2Maine Medical Center, Portland, ME, 3University of Texas Health Science Center at San Antonio, San Antonio, TX, 4Prolong Pharmaceuticals, South Plainfield, NJ

**MHSRS-18-0511** | **POSTER SESSION 2 - #613**
---|---
**Safe Balloon Occlusion Pressures & Volumes for Resuscitative Endovascular Balloon Occlusion of the Thoracic & Abdominal Aorta**

Presentation Author: Dr. Alexey Kamenskiy

Kaspars Maleckis, PhD, Paul Deegan, MS, Thomas Kaili, BS, Jason MacTaggart, MD, Alexey Kamenskiy, PhD

University of Nebraska Medical Center, Omaha, NE

**MHSRS-18-0512** | **POSTER SESSION 2 - #614**
---|---
**Effects of Belly Curvature on the Accuracy of Simulated Fluoroscopy-Free Endovascular Navigation**

Presentation Author: Dr. Jason MacTaggart

Christian Sanderfer, BS, Blake Marmie, BS, Jonathan Fuchs, BS, Miles Tommeraasen, BS, Margarita Pipinos, Paul Aylward, MD, Alexey Kamenskiy, PhD, Jason MacTaggart, MD

1University of Nebraska Medical Center, Omaha, NE, 2Saint Louis University, St. Louis, MO

**MHSRS-18-0597** | **POSTER SESSION 2 - #615**
---|---
**Effect of Diastolic Dysfunction on Volume Responsiveness with an Intrathoracic Pressure Regulator**

Presentation Author: Mr. Mike Salter

Mike Salter, MS, Nicole Ribeiro Marques, MD, Muzna Khan, MS, Jordan Wolfe, BS, George Kramer, PhD, Michael Kinsky, MD

University of Texas Medical Branch, Galveston, TX
MHSRS-18-0642  POSTER SESSION 2 - #616
Normal Values for Rotational Viscoelastometry Evaluated Via ROTEM® in the Pig (Sus scrofa) & Effects of Pre-Analytical Sample Agitation on ROTEM® Results
Presentation Author: Dr. Guillaume Hoareau
Guillaume Hoareau, PhD, DVM, Kevin Grayson, PhD, DVM
David Grant USAF Medical Center, Travis AFB, CA

MHSRS-18-0693  POSTER SESSION 2 - #617
Bacterial Thioredoxin Exacerbates Sepsis Induced Coagulopathy
Presentation Author: Dr. Patrick Ketter
Patrick Ketter¹, Bernard Arulanandam², Andrew Cap¹
¹US Army Institute of Surgical Research, JBSA-Fort Sam Houston, TX, ²University of Texas at San Antonio, Biology Department, San Antonio, TX

MHSRS-18-0698  POSTER SESSION 2 - #618
Pre-Hospital Vital Signs Thresholds for Prediction of Emergency Blood Transfusion in < 55 year Old Versus Older Trauma Patients
Presentation Author: Dr. Peter Hu
Peter Hu, PhD, Yao Li, PhD, Colin F. Mackenzie, MD, Shiming Yang, PhD, Cariona Miller, PhD, Peter Rock, MD
¹University of Maryland School of Medicine, Baltimore, MD ²USAF Center for the Sustainment of Trauma & Readiness Skills, Baltimore, MD

MHSRS-18-0701  POSTER SESSION 2 - #619
Effect of Perfluorocarbon Emulsion Infusion on Platelet Activation Observed by Scanning Electron Microscopy in Normal & Hemorrhagic Sheep
Presentation Author: Dr. Jiepei Zhu
Jiepei Zhu, PhD, J. Mark Hylton, Jr, MD, Evan Kraus, MD, Travis Parsons, PhD, Bruce Spiess, MD, FAHA
¹School of Medicine, Virginia Commonwealth University, Richmond, VA, ²University of Florida College of Medicine, Gainesville, FL

MHSRS-18-0705  POSTER SESSION 2 - #620
Direct Peritoneal Resuscitation Improves Survival in A Murine Model of Combined Burn & Hemorrhage
Presentation Author: Dr. Andrew Jung
Andrew D Jung, MD, Lou Ann Friend, RVT, Sabre Stevens-Topie, Michael D Goodman, MD, Jason Smith, MD, PhD, Charles C. Caldwell, PhD, Timothy A. Pritts, MD, PhD
¹University of Cincinnati, Cincinnati, OH, ²University of Louisville, Louisville, KY

MHSRS-18-0768  POSTER SESSION 2 - #621
Non-Invasive Automated Evaluation of Muscle Blood Flow & Oxygenation in a Rat Model of Trauma & Prolonged Hemorrhagic Shock
Presentation Author: Dr. Ivo Torres Filho
Ivo P. Torres Filho, David Barraza, Charnae E. Williams, Kim Hildreth, Michael A. Dubick
US Army Institute of Surgical Research, JBSA Fort Sam Houston, TX

MHSRS-18-0873  POSTER SESSION 2 - #622
Resuscitation from Hemorrhagic Shock with High Molecular Weight Polymerized Hemoglobin
Presentation Author: Mr. Alexander Williams
Alexander T. Williams¹, Andre Palmer, PhD², Pedro Cabrales, PhD¹
¹UC San Diego, La Jolla, CA, ²The Ohio State University, Columbus, OH
MHSRS-18-0880  POSTER SESSION 2 - #623
Complement Activation During Blood Clotting & Shock Mediate Neutrophil Priming, ROS-Dependent Coagulopathy, & Organ Damage in Traumatic Injury
Presentation Author: Dr. Christopher Barrett
Christopher D. Barrett, MD,1,2, Albert T. Hsu, MD,1, Christian D. Ellson, MD,1, Byron Y. Miyazawa, BS,3, Yi-Wen Kong, PhD,1, James D. Greenwood, MD,1, Sanjeev Dhara, BS,1, Matthew D. Neal, MD,1, Jason L. Sperry, MD,4, Myung S. Park, MD,1, Mitchell J. Cohen, MD,2,6, Brian S. Zuckerbraun, MD,4, & COL Michael B. Yaffe, MD, PhD,1,2 1Massachusetts Institute of Technology, Cambridge, MA, 2Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, 3University of California at San Francisco, San Francisco, CA, 4University of Pittsburgh, Pittsburgh, PA, 5Mayo Clinic, Rochester, MN, 6Denver Health Medical Center, Denver, CO

MHSRS-18-0905  POSTER SESSION 2 - #624
Pre-Hospital Whole Blood Does Not Attenuate Inflammation & Organ Injury Compared to Hextend® in a Non-Human Primate Model of Poly-Trauma
Presentation Author: Dr. Leslie Neidert
Leslie E. Neidert, PhD,1, Alexander Burdette, PhD,1, Michelle E. Thompson, DVM,2, Forest R. Sheppard, MD,1, Jacob J. Glaser, CDR1 1Naval Medical Research Unit San Antonio, JBSA Fort Sam Houston, TX, 2Air Force Material Command 711th Human Performance Wing, JBSA-Ft. Sam Houston, TX

MHSRS-18-0906  POSTER SESSION 2 - #625
Pre-Hospital Whole Blood Does Not Attenuate Acute Lung Injury Compared to Hextend® in a Poly-Traumatic Non-Human Primate Model
Presentation Author: Dr. Leslie Neidert
Leslie E. Neidert, PhD,1, Alexander Burdette, PhD,1, Michelle E. Thompson, DVM,2, Forest R. Sheppard, MD,1, Jacob J. Glaser, CDR1 1Naval Medical Research Unit San Antonio, JBSA Fort Sam Houston, TX, 2Air Force Material Command 711th Human Performance Wing, JBSA-Ft. Sam Houston, TX

MHSRS-18-0926  POSTER SESSION 2 - #626
A Microfluidic Dielectric Sensor for Point-of-Injury Assessment of Hemostatic Dysfunction
Presentation Author: Dr. Michael Suster
Michael Suster, PhD,1, Debnath Maji, M. Tech,1, Ujjal Sekhon, BE,1, Evi Stavrou, MD,1,2, Anirban Sen Gupta, PhD,1, Pedram Mohseni, PhD1 1Case Western Reserve University, Cleveland, OH, 2Louis Stokes Cleveland VA Medical Center, Cleveland, OH

MHSRS-18-0936  POSTER SESSION 2 - #627
Electrokinetic & Thromboelastographic Analysis Demonstrates that Retention of Cotton Cuticle Components Promotes Hemostasis in Hydroentangled Nonwoven Blends
Presentation Author: Dr. Judson Edwards
J. Vincent Edwards, PhD,1, Elena Graves,1, Dorne Yager, PhD,3, Huzafaibah Qureshi3, Joseph Dacorta2, Lawson Gary4, Michael Reynolds4, Brian Condon1, PhD 1Southern Regional Research Center, New Orleans, LA, 2H&H Medical Corporation, Williamsburg, VA, 3Virginia Medical College, Richmond, VA, 4TJ Beall, Greenwood, MS

MHSRS-18-0940  POSTER SESSION 2 - #628
Detection of Internal Bleeding Through Autofluorescence of Heme Breakdown Products
Presentation Author: Dr. Judith Runnels
Judith M. Runnels, PhD, Clemens Alt, PhD, Juwell W. Wu, PhD, Charles P. Lin, PhD Massachusetts General Hospital, Harvard Medical School, Boston, MA
### MHSRS-18-1016 POSTER SESSION 2 - #629
**Assessment of End-Organ Damage After Short Term Deployment of REBOA in a Model of Hemorrhagic Cardiac Arrest**

Presentation Author: Dr. Jae Hyek Choi  
Jae Hyek Choi\(^1,2\), Corina Necsoiu\(^2\), Bryan Jordan\(^2\), Alexander Dixon\(^1,2\), Mark Espinoza\(^2\), Sungmin Ko\(^2,3\), Andriy Batchinsky\(^1,2\), Leopoldo Cancio\(^2\)

\(^1\)The Geneva Foundation, Tacoma WA,  
\(^2\)US Army Institute of Surgical Research, JBSA Ft. Sam Houston, TX,  
\(^3\)Republic of Korea Army, Republic of Korea

### MHSRS-18-1084 POSTER SESSION 2 - #630
**Prehospital Hemostatic Dressings for Trauma: A Systematic Review**

Presentation Author: Dr. Adam Boulton  
Adam J. Boulton, MBChB\(^1\), Christopher T. Lewis, MBChB\(^2\), David N. Naumann, MRCS\(^3\), Mark J. Midwinter, FRCS\(^4\)

\(^1\)University Hospitals Coventry & Warwickshire NHS Trust, Coventry, UK,  
\(^2\)NHS Highland, Raigmore Hospital, Inverness, UK,  
\(^3\)NIHR Surgical Reconstruction & Microbiology Research Centre, Birmingham, UK,  
\(^4\)School of Biomedical Sciences, University of Queensland, Brisbane, Australia

### MHSRS-18-1094 POSTER SESSION 2 - #631
**Resuscitative Endovascular Balloon Occlusion of the Aorta (REBOA) Alters Intracranial Pressure & Brain Tissue Oxygen Tension Following Traumatic Brain Injury**

Presentation Author: Dr. Zachary Bailey  
Zachary Bailey\(^1\), Katherine Cardif\(^2\), Xiaofang Yang\(^3\), Janice Gilsdorf\(^3\), Deborah Shear\(^1\), Todd Rasmussen\(^2\), Lai Yee Leung\(^1,2\)

\(^1\)Walter Reed Army Institute of Research, Silver Spring, MD,  
\(^2\)Uniformed Services University of the Health Sciences, Bethesda, MD

### MHSRS-18-1104 POSTER SESSION 2 - #632
**Development of Devices to Enable REBOA in Prolonged Field Care**

Presentation Author: Mr. Curtis Franklin  
Curtis J. Franklin\(^1\), MS, Col Todd E. Rasmussen\(^2\), John B. Holcomb, MD\(^1,3\), David G. Baer, PhD\(^1\)

\(^1\)Prytime Medical Devices, Boerne, TX,  
\(^2\)Uniformed Services University of the Health Sciences, Bethesda, MD  
\(^3\)The University of Texas, Houston, TX

### MHSRS-18-1176 POSTER SESSION 2 - #633
**Effects of Fibrinogen Concentrate on Brain Blood Flow During Damage Control Resuscitation in a Polytrauma Model**

Presentation Author: Dr. Nathan White  
Nathan White, MD, Alexander St. John, MD, Xu Wang, MD, Susan Stern, MD University of Washington, Seattle, WA

### MHSRS-18-1210 POSTER SESSION 2 - #634
**A “Human-Proof Pointy-End” for a Potential Trauma Pod Effector: Technical Notes on Robotically Applied Hemostatic Clamp for Care-Under-Fire. An Update**

Presentation Author: MAJ Andrew Kirkpatrick  
Major Andrew W. Kirkpatrick, CD, MD, MHSsc, FRSCSC, FACS\(^1,3\), Jessica L. Mckee, BA, MSc\(^1\), Ian A. Mckee, PTO\(^4\), Paul McBeth, MD, MASc, FRCS(C), FEng\(^1,2\), Chad G. Ball, MD, MSc, FRCS(F), FACS\(^1,3\), LCol N. (Ret) Naisan Garraway, CD, MD, FRCCSC, FACS\(^3\), David J. Schneider, 18D, ATP, EMT-P ISRM\(^5\), Timothy J. Broderick, MD, FACS\(^1\)

\(^1\)University of Calgary, Calgary, AB, Canada,  
\(^2\)Foothills Medical Centre, Calgary, AB, Canada,  
\(^3\)Canadian Forces Health Services, Canada,  
\(^4\)City of Edmonton, Edmonton, AB, Canada,  
\(^5\)Vancouver General Hospital, Vancouver, BC, Canada,  
\(^6\)US Department of State, Directorate of Operational Medicine, Washington, DC,  
\(^7\)University of Cincinnati, Cincinnati, OH
**Poster Session II**

**MHSRS-18-1216**  **POSTER SESSION 2 - #635**

**The Efficacy of Platelet Substitutes, H12(ADP) Liposomes, for the Treatment of Hemorrhagic Shock Caused by Mesenteric Injury in Rabbits with Trauma-Induced Coagulopathy**

Presentation Author: Dr. Manabu Kinoshita

Manabu Kinoshita, MD, PhD¹, Kosuke Hagisawa, MD, PhD¹, Shinji Takeoka, PhD², Nariyoshi Shinomiya, MD, PhD¹, Shuhji Seki, MD, PhD¹

¹National Defense Medical College, Japan, ²Graduate School of Advanced Science & Engineering, Waseda University, Japan

**MHSRS-18-1219**  **POSTER SESSION 2 - #636**

**Efficacy of Intraosseous Transfusion of Hemoglobin Vesicles for the Resuscitation of Hemorrhagic Shock Rabbits**

Presentation Author: Dr. Kosuke Hagisawa

Kosuke Hagisawa, MD, PhD¹, Manabu Kinoshita, MD, PhD¹, Nariyoshi Shinomiya, MD, PhD¹, Hiromi Sakai, PhD²

¹National Defense Medical College, Japan, ²Nara Prefectural Medical University, Japan

**MHSRS-18-1221**  **POSTER SESSION 2 - #637**

**Just Pack It! Maybe Not Be as Easy as It Sounds Without Remote Guidance**

Presentation Author: Ms. Jessica Mckee

Jessica L. Mckee, BA MSc¹, Major Andrew W. Kirkpatrick, CD, MD, MHSc, FRCSC, FACS¹, Ian A. Mckee, Ti¹, Paul McBeth, MD, MASc, FRCS(C), P Eng¹, Chad G. Ball, MD MSc FRCS(C), FACS¹²

¹University of Calgary, Calgary, AB, Canada, ²Alberta Health Services, Foothills Medical Centre, Calgary, AB, Canada, ³Canadian Forces Health Services, Canada, ⁴City of Edmonton, Edmonton, AB, Canada

**MHSRS-18-1258**  **POSTER SESSION 2 - #638**

**Investigational French Freeze Dried Plasma Use by US Special Operations Command (USSOCOM): “A New Era of DoD & FDA collaboration”**

Presentation Author: Mr. Danny Hassan

Danny Hassan¹, Rodney Saunders², Eric Green³, Ryan Meskiman⁴, William “Bill” Barnes⁵

¹US Army Medical Materiel Development Activity, Ft Detrick, MD, ²US Army Special Operations Command Surgeons Office, Ft Bragg, NC, ³Marine Special Forces Command, Camp Lejeune, NC, ⁴Naval Special Warfare Command, Virginia Beach, VA, ⁵US Air Force Special Operations Command, Hurlburt Field, FL

**MHSRS-18-1318**  **POSTER SESSION 2 - #639**

**A Matter of Fluids: Relationship Between Platelet Dysfunction & Resuscitative Crystalloids**

Presentation Author: Ms. Leasha Stygler

Leasha Schaub, MS¹, Forest Sheppard, MD, FACS¹, Hunter Moore, MD, PhD², Ernest Moore, MD², Viviana Moreno, BS¹, Mary Salas, MS¹, CDR Jacob Glaser, MD, FACS¹

¹Naval Medical Research Unit-San Antonio, Ft. Sam Houston, TX, ²University of Colorado & Denver Health Medical Center, Denver, CO

**MHSRS-18-1324**  **POSTER SESSION 2 - #640**

**Hextend is Equivalent to Whole Blood for Short Term Prehospital Resuscitation, but Creates a Life Threatening Coagulopathy in Non-Human Primate Poly-Traumatic Hemorrhagic Shock Model**

Presentation Author: Ms. Kassandra Ozuna

Leasha Schaub, MS¹, Doug Tadaki, PhD², Kassandra Ozuna, MBA³, Darren Fryer, BS¹, COL Andre Cap, MD, PhD², Forest Sheppard, MD, FACS¹², CDR Jacob Glaser, MD, FACS¹

¹Naval Medical Research Unit-San Antonio, JBSA-Ft. Sam Houston, TX, ²US Army Institute of Surgical Research, JBSA-Ft. Sam Houston, TX, ³Maine Medical Center, Portland, ME

**OPEN**  **POSTER SESSION 2 - #641**
The Effect of Ethynylestradiol-3-sulfate (EE-3-S) on Blood Volume & Organ Function in Pigs with Severe Traumatic Hemorrhage
Presentation Author: Dr. Wenjun Martini

Development of an Oxygen Carrier Solution (VIR-XV1) for Ex Vivo & In Vivo Applications
Presentation Author: Dr. William Light
W. Richard Light, PhD1, Kim Vandegriff, PhD1, William Light1, Andres Benitez, PhD1, Joe Tucker, PhD1, William H. Nugent, PhD2, Bjorn K. Song, PhD2, Ashok Malavalli, MA1
1VirTech Bio, Natick, MA, 2Song Biotechnologies, Baltimore, MD

Fast Onset Abdominal Management (F.O.A.M.)™: Intra-Abdominal Noncompressible Hemorrhage Hemostasis Technology
Presentation Author: Dr. Ross Donaldson
Ross Donaldson, MD1, Timothy Fisher, MBChB2, Oliver Buchanan, BSc1, John Cambridge, PhD2, Jonathan Armstrong, PhD2, James Ross, PhD2
1Critical Innovations, Los Angeles, CA, 2NeoMatRx, Los Angeles, CA, 3Oregon Health & Science University School of Medicine, Portland, OH

PolySTAT, a Fibrin-Crosslinking Intravenous Hemostat, Shows Clinical Relevance as a Hemorrhage Treatment
Presentation Author: Dr. Nathan White
Nathan White, MD1, Robert Lamm, BS1, Leslie Chan, PhD1, Xu Wang, MD1, Suzie Pun PhD1
1University of Washington, Seattle, WA

Transfusion of Anaerobically Stored RBCs Improves Recovery from Hemorrhagic Shock in Rats
Presentation Author: Mr. Alexander Williams
Alexander T. Williams1, Tatsuro Yoshida, PhD2, Andrew Dunham, PhD2, Pedro Cabrales, PhD1
1UC San Diego, La Jolla, CA, 2Hemanext, Lexington, MA

Self-Assembling Peptide Nanofibers for Rapid Hemostasis
Presentation Author: Mr. Colin Bittner
Colin Bittner, BS1, Michael Dubick, PhD2, Paula Hammond, PhD1
1Massachusetts Institute of Technology, Cambridge, MA, 2US Army Institute of Surgical Research, Ft. Sam Houston, TX

The Endovascular Variable Arterial Control (EVAC) Pump- Next Generation REBOA for En Route Combat Casualty Care
Presentation Author: Dr. Lucas Neff
Timothy K. Williams MD1,2,3, Lucas P. Neff MD2,4, Meryl A. Simon MD2,3, Anders J. Davidson MD2,3, Erik S. DeSoucy DO2,3, E. Robert Faulconer MBBS3, J. Kevin Grayson DVM, PhD3, M. Austin Johnson MD, PhD2,3
1Wake Forest Baptist Medical Center, Winston-Salem, NC, 2University of California Davis Medical Center, Sacramento, CA, 3David Grant USAF Medical Center, Travis Air Force Base, CA, 4Emory University Hospital, Atlanta, GA
MHSRS-18-1702  POSTER SESSION 2 - #649
In Vitro Evaluation of a Novel Hemostatic Dressing That Uses Low Electrical Current to Induce Coagulation
Presentation Author: MAJ Dean Nachman
John Smith, PhD, John Doe, MS, Jane Doe, MD, MAJ Dean Nachman, MD, Noy Mark, Rafi Gerassi, Sagie Meshulam, Lin Wagner Avraham, PhD, Chen Orenshtein, Arik Eisenkraft, MD
1The Hebrew University Medical School, Jerusalem, Israel, 2Hadassah Hospital Ein Kerem, Jerusalem, Israel, 3Surgeon General Headquarters, IDF

MHSRS-18-1722  POSTER SESSION 2 - #650
Predicting Acute Traumatic Coagulopathy Outcomes Using Machine Learning
Presentation Author: Dr. Sanket Tavarageri
Sanket Tavarageri, PhD, Nag Mani, Anand Ramasubramanian, PhD, Kiran Kalsi San Jose State University, San Jose, CA

MHSRS-18-1728  POSTER SESSION 2 - #651
Evaluation of Trauma-Induced Coagulopathy in the FiRST Trial
Presentation Author: Dr. Henry Peng
Henry Peng, PhD, Barto Nascimento, MD, Wentao Cui, BSc, Shawn G. Rhind, PhD, Andrew Beckett, MD
1Toronto Research Centre, Toronto, ON, Canada, 2Sunnybrook Health Sciences Centre, Toronto, ON, Canada, 3Royal Canadian Medical Services, Ottawa, QC, Canada

MHSRS-18-1756  POSTER SESSION 2 - #652
Platelet Transfusion for Correction of Platelet Inhibition in Moderate to Severe TBI is Not Associated with Decreased Mortality in the Younger Patient Population
Presentation Author: Dr. Andrew Sorah
Andrew Sorah, MD, Susan Evans, MD, Kyle Cunningham, MD, Colleen Karvetski, PhD, Michael Ekaney, PhD, Rita Brintzenhoff, MD
Carolina Medical Center, Charlotte, NC

MHSRS-18-1758  POSTER SESSION 2 - #653
A Pilot Observational Cohort Study of Endothelial Glycocalyx Shedding in Severe Trauma Patients
Presentation Author: MAJ Elissa Milford
MAJ Elissa Milford, MBBS, David Liu, PhD, Jeffrey Lipman, PhD, John-Paul Tung, PhD, James Winears, MBBS, Martin Wullschleger, PhD, Michael Reade, DPhil
1Australian Defence Force, 2University of Queensland, Queensland, Australia, 3Royal Brisbane & Women’s Hospital, Queensland, Australia, 4Australian Red Cross Blood Service, Queensland, Australia, 5Gold Coast University Hospital, Queensland, Australia

MHSRS-18-1763  POSTER SESSION 2 - #654
Self-Propelling Particles Increase the Efficacy of Hemostatic Agents in Traumatic & Surgical Bleeding
Presentation Author: Mr. James Baylis
James R. Baylis, BSc, Alexander E. St. John, MD, Andres Finkelstein-Kulka, MD, Xu Wang, MD, Mike M. Lee, BSc, Luis Macias-Valle, MD, Jamil Manji, MSc, Matthew Statz, BS, Esther B. Lim, BSc, Diana Chien, BSc, Eric Christopher Okpaleke, MPH, Salahuddin Al-Salih, MD, Susan A. Stern, PhD, Amin Javer, MD, Nathan J. White, MD, Christian J. Kastrup, PhD
1University of British Columbia, Vancouver, BC, Canada, 2University of Washington, Seattle, WA, 3St. Paul’s Hospital Sinus Centre, Vancouver, BC, Canada

MHSRS-18-1794  POSTER SESSION 2 - #655
Development of a cGMP-Compliant Process to Manufacture Human Platelet Releasate (hPR) - A Xeno-Free Serum Supplement for Large-Scale Cell Expansion
Presentation Author: Dr. Anand Srinivasan
Anand Srinivasan, PhD, Corrine Avila, Elizabeth Serrano, Jane Ladet, James Bynum, PhD, COL Andrew P. Cap, MD, PhD, Scott Jones, PhD, Ward Carter, BS, Becky Cap, MBA
1BioBridge Global, San Antonio, TX, 2US Army Institute of Surgical Research, Fort Sam Houston, TX
MHSRS-18-1892  POSTER SESSION 2 - #656
Novel Injectable Oxygen Microsensors Reveal Hind Limb Tissue Hypoxia After REBOA Use in a Swine Hemorrhage Model
Presentation Author: Dr. Scott Nichols
Scott P. Nichols, PhD1, Malcom D. Prince2, I. Amy Polykratis2, Rodolfo De Guzman2, Dylan Li2, Natalie A. Wisniewski, PhD1, Michael A. Dubick2  
1Profusa Inc, South San Francisco, CA, 2US Army Institute of Surgical Research, JBSA Fort Sam Houston, TX

MHSRS-18-1996  POSTER SESSION 2 - #657
Early Thrombin Generation in Thermally-Injured Patients
Presentation Author: Dr. Robert Ball
Robert Ball, MD1-2, Jeffrey Shupp, MD1-3, Maria Bravo, PhD4, Thomas Orfeo, PhD4, Melissa McLawhorn, RN1, Lauren Moffatt, PhD1-3, Kathleen Brummel-Ziedins, PhD4  
1MedStar Health Research Institute, Washington, DC, 2MedStar Washington Hospital Center, Washington, DC, 3Georgetown University School of Medicine, Washington, DC, 4University of Vermont Larner College of Medicine, Burlington, VT

MHSRS-18-2009  POSTER SESSION 2 - #658
Meizothrombin Generation in Thermally-Injured Patients
Presentation Author: Dr. Robert Ball
Robert Ball, MD1-2, Maria Bravo, PhD3, Kathleen Brummel-Ziedins, PhD3, Thomas Orfeo, PhD3, Melissa McLawhorn, RN1, Lauren Moffatt, PhD1-4, Jeffrey Shupp, MD1-2,4  
1MedStar Health Research Institute, Washington, DC, 2MedStar Washington Hospital Center, Washington, DC, 3University of Vermont Larner College of Medicine, Burlington, VT, 4Georgetown University School of Medicine, Washington, DC

MHSRS-18-2042  POSTER SESSION 2 - #659
Hemostatic Properties of Acellular Fish Skin Graft & a Gelatin Sponge Evaluated in an Acute Porcine Liver Square Lesion Model
Presentation Author: Dr. Hilmar Kjartansson
Hilmar Kjartansson, MD1-2, Baldur Tumi Baldursson MD, PhD1-2, Skuli Magnusson, BSc2, G. Fertram Sigurjonsson, MEng2  
1Landspitali - The National University Hospital of Iceland, Reykjavik, Iceland, 2Kerecis, Reykjavik, Iceland

MHSRS-18-2074  POSTER SESSION 2 - #660
Increased Thrombin Generation & Abnormal Clot Structure in Trauma Patients with Fibrinolysis Shutdown
Presentation Author: Dr. Kalev Freeman
Kalev Freeman, MD, PhD, Nathan Dow, BS, Nuria Villalba, PhD, Alex Olson, BS, Shannon Prior, BS, Saulius Butenas, PhD  
University of Vermont, Burlington, VT

BLOOD PRODUCTS & MILITARY BLOOD BANKING

MHSRS-18-0120  POSTER SESSION 2 - #661
Airdrop Blood Supply in the French Army
Presentation Author: CDR Olivier Javaudin
CDR Olivier Javaudin, PharmD1, Arthur Baillon, PharmD2, Nicolas Varin3, Christophe Martinaud, MD, PhD, Prof2, Thomas Pouget, MD1, Corinne Civadier, PharmD1, Benoit Clavier, MD1, Anne Sailliol, MD1  
1Centre De Transfusion Sanguine Des Armées, Clamart, France, 2Ecole De Santé Des Armées, Bron, France, 3Section Technique De L’armée De Terre, Cugnaux, France
Assessment of Cryoprecipitate Produced from Mirasol-Treated Plasma

Presentation Author: Dr. Susan Yonemura
Susan Yonemura, PhD1, Marley Shipps, BS1, Marcia Cardoso, PhD2, Susanne Marschner, PhD1
1Terumo BCT, Lakewood, CO, 2Terumo BCT Europe NV, Zaventem, Belgium

Hemoglobin San Diego: An Uncommon Cause of Hereditary Erythrocytosis Discovered Incidentally in a Military Trainee

Presentation Author: CPT Joshua Boster
CPT Joshua Boster, MD, Joseph Howells, DO, Ryan Devine, DO
Brooke Army Medical Center, Fort Sam Houston, TX

Purine Nucleoside Levels are Maintained in Cold-Stored Platelets

Presentation Author: Mrs. Christi Salgado
Christi Salgado, Kristin Reddoch-Cardenas, Umang Sharma, Daniel Darlington, Andrew Cap
US Army Institute of Surgical Research, Fort Sam Houston, TX

High Sensitivity Multiplex Detection of Tick Borne Infections Using a Combination of Nanotechnology & Mass Spectrometry

Presentation Author: Dr. Robert Molestina
Ruben Magni1, Alessandra Luchini1, Lance Liotta1, Robert E. Molestina2
1George Mason University, Manassas, VA, 2Protistology Laboratory, American Type Culture Collection, Manassas, VA

Tranexamic Acid Mediates Pro- & Anti-Inflammatory Signaling via Complement C5a Regulation in a Plasminogen Activator-Dependent Manner

Presentation Author: Dr. Christopher Barrett
Christopher D. Barrett, MD1,2, Hunter B. Moore MD, PhD1, Dan C. Lim, PhD2, Michael P. Chapman, MD3, Ernest E. Moore, MD1,4, COL Michael B. Yaffe, MD, PhD1,2
1Harvard Medical School, Boston, MA, 2Massachusetts Institute of Technology, Cambridge, MA, 3University of Colorado Denver, Denver, CO, 4Denver Health Medical Center, Denver, CO

Specialized Proresolving Mediators (SPMs) Help to Alleviate the Cold Platelet Storage Lesion

Presentation Author: Dr. Kristin Reddoch-Cardenas
Kristin Reddoch-Cardenas, PhD1, Umang Sharma, BS3, Christi Salgado, BS3, Carolina Canto, MS1, Heather Pidcocke, MD, PhD2, Andrew Cap, MD, PhD1
1US Army Institute of Surgical Research, JBSA-Fort Sam Houston, TX, 2Cellphire, Rockville, MD

The Homogeneity & Functionality of Exosomes Isolated from Different Preparations

Presentation Author: Ms. Tiffani Chance
Tiffani Chance, MS1,2, Christopher R. Rathbone, PhD1, Barbara A. Christy, PhD2, Larry E. Estlack, BS2, Christopher Delevan, MS2, Andrew P. Cap, MD, PhD2, James A. Bynum, PhD2
1The University of Texas at San Antonio, San Antonio, TX, 2The United States Army Institute of Surgical Research, San Antonio, TX
MHSRS-18-0522  POSTER SESSION 2 - #669  
In Vitro Production of Platelets for Far-Forward Military Settings & Countermeasure Transfusion Needs  
Presentation Author: Dr. Jonathan Thon  
Jonathan N. Thon, PhD 1,3, Bradford Dykstra, PhD 1, Jorge Valdez, PhD 1, Christian G. Peters, PhD 1, Lea M. Beaulieu, PhD 1  
1Platelet BioGenesis, Cambridge, MA, 2Brigham & Women’s Hospital, Boston, MA, 3Harvard Medical School, Boston, MA

MHSRS-18-0530  POSTER SESSION 2 - #670  
Cellular Therapy Products Enhance Angiogenic Potential of Human Umbilical Vein Endothelial Cells  
Presentation Author: Dr. Barbara Christy  
Larry E. Estlack, BS, Christopher Delavan, MS, Maryanne C. Herzig, PhD, Barbara A. Christy, PhD, James A. Bynum, PhD, Andrew P. Cap, MD, PhD  
The University of Texas Health Science Center at San Antonio, San Antonio, TX

MHSRS-18-0538  POSTER SESSION 2 - #671  
Prolonged Prothrombin Time in Acquired Coagulopathies: Contributions of Excess Thrombin & Fibrinogen Degradation Products  
Presentation Author: Dr. Michael Meledeo  
Michael Meledeo, PhD, Prajeeda Nair, PhD, Grantham Peltier, MS, Ashley Taylor, BA, James Bynum, PhD, Andrew Cap, MD, PhD  
USAISR, JBSA-Fort Sam Houston, TX

MHSRS-18-0550  POSTER SESSION 2 - #672  
Stability of French Lyophilized Plasma Following Accidental Temperature Excursion During Shipping  
Presentation Author: Dr. Michael Meledeo  
Michael Meledeo, PhD,2, Grantham Peltier, MS, Colby McIntosh, BS,1, William Barnes, MS,2, James Bynum, PhD, Andrew Cap, MD, PhD  
1USAISR, JBSA-Fort Sam Houston, TX, 2AFSOC, Hurlburt Field, FL

MHSRS-18-0562  POSTER SESSION 2 - #673  
Impact of a -80°C Cold Chain Environment on Supply, Transport & Storage of DMSO Cryopreserved Platelets in a Veterinary Clinical Trial  
Presentation Author: Dr. Anne Hale  
Anne S. Hale, DVM,1, G. Michael Fitzpatrick, PhD 2  
1BodeVet Inc, Rockville, MD, 2Cellphire Inc, Rockville, MD

MHSRS-18-0589  POSTER SESSION 2 - #674  
Comparison of Direct vs. Transwell MLR Assays for Evaluation of Human Mesenchymal Stromal Cell Immunomodulation Activity  
Presentation Author: Mr. Christopher Delavan  
Christopher Delavan, MS, Robbie Montgomery, MS, Maryanne Herzig, PhD, Barbara Christy, PhD, James Bynum, PhD, COL Andrew Cap, MD, PhD  
US Army Institute of Surgical Research, JBSA Fort Sam Houston, TX

MHSRS-18-0609  POSTER SESSION 2 - #675  
Adenosine Changes cAMP in Platelets by Affecting Adenylyl Cyclase & Phosphodiesterase-3  
Presentation Author: Dr. Daniel Darlington  
Bunyen Teng, PhD,1, Daniel N. Darlington, PhD2,3, Xiaowu Wu, MD, Andrew P. Cap, MD, PhD 1,2  
1US Army Institute of Surgical Research, JBSA Fort Sam Houston, TX, 2University of Texas Health Science System, San Antonio, TX
MHSRS-18-0612  POSTER SESSION 2 - #676
Interaction of Prostaglandin I2 & Agonists of Platelet Aggregation
Presentation Author: Dr. Daniel Darlington
Daniel N. Darlington, PhD, Xiaowu Wu, MD, Andrew P Cap, MD, PHD
US Army Institute of Surgical Research, JBSA Fort Sam Houston, TX, University of Texas Health Science System, San Antonio, TX

MHSRS-18-0622  POSTER SESSION 2 - #677
Trauma Causes a Fall in Intracellular ATP in Platelets that May Lead to Platelet Dysfunction
Presentation Author: Dr. Daniel Darlington
Jeffrey Keesee, BS¹, Daniel N. Darlington, PhD¹,², Xiaowu Wu, MD¹,², Andrew P. Cap, MD, PHD¹,²
¹US Army Institute of Surgical Research, JBSA Fort Sam Houston, TX, ²University of Texas Health Science System, San Antonio, TX

MHSRS-18-0625  POSTER SESSION 2 - #678
Trauma-Induced Decrease in Platelet Aggregation is Likely Due to Rise in Intracellular cAMP
Presentation Author: Dr. Daniel Darlington
Daniel N. Darlington, PhD, Xiaowu Wu, MD, Andrew P Cap, MD, PHD
US Army Institute of Surgical Research, JBSA Fort Sam Houston, TX & University of Texas Health Science System, San Antonio TX

MHSRS-18-0629  POSTER SESSION 2 - #679
Can Kunicki Morphology Scoring be a Cost-Effective Alternative to Flow Cytometry for Platelet Activation Quantification?
Presentation Author: Mr. Umang Sharma
Umang Sharma, BS, Kristin Reddoch-Cardenas, PhD, Christi Salgado, BS, Carolina C. Cantu-Garza, MS, Andrew Cap, MD, PhD
US Army Institute of Surgical Research, Fort Sam Houston JBSA, TX

MHSRS-18-0644  POSTER SESSION 2 - #680
In Vitro Quality of Freeze-Dried Plasma
Presentation Author: Dr. Lina Dimberg
Lina Dimberg, PhD, Ashley Parr, BS, MPH, Terry Khat, BS, Ryan Bates, MS, Nick Hovenga, BS, Nate Johnson, MS, Susanne Marschner, PhD
Terumo BCT, Lakewood, CO

MHSRS-18-0647  POSTER SESSION 2 - #681
Dry-Preserved Red Blood Cells for Transfusions in Far-Forward Settings
Presentation Author: Mr. Brett Janis
Brett R. Janis, BA, Mariah C. Priddy, BS, Jonathan A. Kopechek, PhD, Michael A. Menze, PhD
University of Louisville, Louisville, KY

MHSRS-18-0702  POSTER SESSION 2 - #682
Cerium Oxide Nanoparticles May Improve Lifespan of Stored Blood
Presentation Author: Dr. Beverly Rzigalinski
Beverly Rzigalinski, PhD
Via College of Osteopathic Medicine, Blacksburg, VA

MHSRS-18-0706  POSTER SESSION 2 - #683
Cold-Stored Whole Blood Performs Comparably to Fresh Whole Blood in Resuscitation of Acute Traumatic Coagulopathy
Presentation Author: Dr. Xiaowu Wu
Xiaowu Wu, MD¹,², Daniel N. Darlington, PhD¹,², Jacob Chen, MD³, Robbie K. Montgomery, MS¹, Bin Liu, BS¹, Jeffrey D. Keesee, BS¹, Andrew P. Cap, MD, PHD¹,²
¹US Army Institute of Surgical Research, Fort Sam Houston, TX, ²University of Texas Health Science Center, San Antonio, TX, ³Israeli Defense Force, Israel
**MHSRS-18-0757**  **POSTER SESSION 2 - #684**  
**Tranexamic Acid Improves the Outcome of Trauma by Attenuation of Fibrinolytic Activity & Reduction of Vascular Permeability**  
Presentation Author: Dr. Xiaowu Wu  
Xiaowu Wu, MD, Daniel N. Darlington, PhD, Avi Benov, MD, Jeffrey Keesee, BS, Bin Liu, BS, Andrew P. Cap, MD, PhD  
1US Army Institute of Surgical Research, Fort Sam Houston, TX, 2University of Texas Health Science Center, San Antonio, TX, 3Israeli Defense Force, Israel

**MHSRS-18-0761**  **POSTER SESSION 2 - #685**  
**Treatment of Acute Traumatic Coagulopathy with Serine Protease Inhibitor (Serp-1)**  
Presentation Author: Dr. Xiaowu Wu  
Xiaowu Wu, MD, Daniel N. Darlington, PhD, Jeffery D. Keesee, BS, Bin Liu, BS, Andrew P. Cap, MD, PhD  
1US Army Institute of Surgical Research, Fort Sam Houston, TX, 2University of Texas Health Science Center, San Antonio, TX

**MHSRS-18-0781**  **POSTER SESSION 2 - #686**  
**Urine Based Gene Expression Panels with Focus on Prostate Cancer in African Americans**  
Presentation Author: Dr. Indu Kohaar  
Indu Kohaar, PhD, Sreedatta Banerjee, BS, Yongmei Chen, MS, Amina Ali, MS, Jacob Kagan, PhD, Sudhir Srivastava, PhD, Albert Dobi, PhD, Jennifer Cullen, PhD, Inger L. Rosner, MD, Shiv Srivastava, PhD, Gyorgy Petrovics, PhD  
1Uniformed Services University of the Health Sciences & Walter Reed National Military Medical Center, Bethesda, MD, 2National Cancer Institute, Bethesda, MD, 3Walter Reed National Military Medical Center, Bethesda, MD

**MHSRS-18-0897**  **POSTER SESSION 2 - #687**  
**Whole Blood Leukoreduction with Platelet Sparing Technology: Modified for Far Forward Operations**  
Presentation Author: Mr. Dario Rodriquez  
Einar K. Kristoffersen, MD, Warren C. Dorlac, MD, Philip C. Spinella, MD, James Lehman, BS, Dario Rodriquez, MSc  
1Haukeland University Hospital, Bergen, Norway, 2University of Colorado Health, Loveland, CO, 3Washington University in St Louis School of Medicine, St Louis, MO, 4USAF School of Aerospace Medicine, Wright Patterson AFB, OH

**MHSRS-18-0948**  **POSTER SESSION 2 - #688**  
**Screening of Donated Blood Products for Zika Virus in US Armed Services Blood Program Donors**  
Presentation Author: COL Andrew Cap  
Chriselda Fedyk, MS, COL Andrew Cap, MD, PhD  
US Army Institute of Surgical Research, Fort Sam Houston, TX

**MHSRS-18-1023**  **POSTER SESSION 2 - #689**  
**Transfusion of Blood Products Among US Military Casualties Injured in Theater between 2003 & 2016**  
Presentation Author: Ms. Laura Scott  
Laura L.F. Scott, MPH, MS, Andrew P. Cap, MD, PhD, Beatrice T. Stephens, RN, MA, Jennifer M. Gurney, MD, Stacy A. Shackelford, MD, Zsolt T. Stockinger, MD  
1Joint Trauma System, JBSA–Fort Sam Houston, Texas, 2US Army Institute of Surgical Research, JBSA–Fort Sam Houston, Texas

**MHSRS-18-1074**  **POSTER SESSION 2 - #690**  
**Assessing Prothrombotic Risk in Spray-Dried, Solvent/Detergent-Treated Plasma**  
Presentation Author: Mr. Michael Galiger  
Michael Galiger, Phil Spinella, MD, FCCM, Taegen Sullivan  
1Entegrion Inc, Durham, NC, 2Washington University in St Louis, St Louis, MO
**Poster Session II**

**MHSRS-18-1107**

**POSTER SESSION 2 - #691**

*Analysis of the Interactions of Human Mesenchymal Stem Cells with Peripheral Blood Mononuclear Cells in a Mixed Lymphocyte Reaction (MLR) Assay*

Presentation Author: Dr. Maryanne Herzig

Maryanne C. Herzig, PhD, Barbara A. Christy, PhD, Robbie K. Montgomery, MS, Christopher P. Delavan, MS, Larry E. Estlack, Katherine J. Jensen, Sarah Lovelace, Carolina Cantu, MS, Christi L. Salgado, James A. Bynum, PhD, Andrew P. Cap, MD, PhD

University of Texas Health Science Center at San Antonio, San Antonio, TX

**MHSRS-18-1132**

**POSTER SESSION 2 - #692**

*Autoantibodies as Diagnostic & Prognostic Biomarkers in Prostate Cancer Using Liquid Biopsy: Evaluation of Secreted Protein Acidic & Rich in Cysteine (SPARC) & Fetuin-A Autoantibodies in Sera of Prostate Cancer Patients*

Presentation Author: Dr. Alagarsamy Srinivasan

Shyh-Han Tan, PhD, Andy Martinez, MD, Anshu Rastogi, PhD, Wei Huang, MBBS, Sreedatta Banerjee, MS, Amina Ali, MS, Jennifer Cullen, PhD, Yongmei Chen, MS, Gyorgy Petrovics, PhD, Albert Dob, PhD, Lakshmi Ravindranath, BS, Denise Young, BS, Isabell A. Sesterhenn, MD, Jacob Kagan, PhD, Sudhir Srivastava, PhD, David G. McLeod, MD, Inger L. Rosner, MD, Shiv Srivastava, PhD, Alagarsamy Srinivasan, PhD

1Uniformed Services University of the Health Sciences & the Walter Reed National Military Medical Center, Bethesda, MD, 2National Cancer Institute, Bethesda, MD, 3Walter Reed National Military Medical Center, Bethesda, MD

**MHSRS-18-1134**

**POSTER SESSION 2 - #693**

*Annexin A2 Expression Level Correlates with Adverse Pathology & Disease Progression in Prostate Cancer*

Presentation Author: Dr. Shyh-Han Tan

Shyh-Han Tan, PhD, Denise Young, BS, Wei Huang, MBBS, Amina Ali, MS, Lakshmi Ravindranath, BS, Anshu Rastogi, PhD, Kurt Christen, BS, Kevin Babcock, BS, Piyush Pillarseti, Huai-Ching Kuo, MS, Yongmei Chen, MS, Jacob Kagan, PhD, Sudhir Srivastava, PhD, Albert Dob, PhD, Srinivasan Alagarsamy, PhD, Gyorgy Petrovics, PhD, David G. McLeod, MD, Jennifer Cullen, PhD, Inger L. Rosner, MD, Isabell A. Sesterhenn, MD, Shiv Srivastava, PhD

1Uniformed Services University of the Health Sciences & the Walter Reed National Military Medical Center (WRNMMC), Bethesda, MD, 2National Cancer Institute, Bethesda, MD, 3WRNMMC, Bethesda, MD, 4Joint Pathology Center, Silver Spring, MD

**MHSRS-18-1300**

**POSTER SESSION 2 - #694**

*Cold-Storage of Platelets Preserves Structural Integrity During Clot Retraction to Offer Better Hemostasis Compared to Room Temperature Storage*

Presentation Author: Prajeeda Nair

Prajeeda M. Nair, PhD, Xiaowu Wu, MD, PhD, Adrienne R. Wells, PhD, Bin Liu, BS, Kai P. Leung, PhD, Anand K. Ramasubramanian, PhD, Andrew P Cap, MD, PhD

1Blood Research Program, UW-Madison School of Medicine and Public Health, Madison, WI, 2US Army Institute of Surgical Research, Fort Sam Houston, TX, 3San José State University, San José, CA

**MHSRS-18-1346**

**POSTER SESSION 2 - #695**

*Extended Cold-Storage of Apheresis Platelets in Plasma*

Presentation Author: Dr. Moritz Stolla

Moritz Stolla, MD, Lynda Fitzpatrick, RN, Irena Gettinger, BS, Shawn L. Bailey, BS, Esther Pellham, BS, Todd Christoffel, BS

1Bloodworks Northwest Research Institute, Seattle, WA, 2University of Washington School of Medicine, Seattle, WA

**MHSRS-18-1348**

**POSTER SESSION 2 - #696**

*A Portable Platelet Apheresis System Using Inertial Microfluidics*

Presentation Author: Dr. Ketan Bhatt

Ketan Bhatt, PhD, Hongjun Song, PhD, Dustin Haithcock, BS, Prabakar Pandian, PhD, Kapil Pant, PhD

CFD Research Corporation, Huntsville, AL
OPEN POSTER SESSION 2 - #697

MHSRS-18-1576 POSTER SESSION 2 - #698
Walking Blood Bank Training Program
Presentation Author: CPT Jacquelyn Messenger
CPT Jacquelyn Messenger, MS1, Sarah Matthews, MS2
1USAISR, San Antonio, TX, 2MAMC, JBLM, WA

MHSRS-18-1592 POSTER SESSION 2 - #699
ROTEM Analysis of Whole Blood Collected & Stored in CPDA-1 with UV Light & Riboflavin Treatment
Presentation Author: Mr. Nick Hovenga
Nick Hovenga, BS, Jane Gosney, BS, Melissa Tran, BS, Suzann Doane, BS, Susan Yonemura, PhD, Susanne Marschner, PhD
Terumo BCT, Lakewood, CO

MHSRS-18-1619 POSTER SESSION 2 - #700
Computational & Experimental Tools for Optimization of Military Platelet Banking with Prolonged Shelf Life
Presentation Author: Dr. Andrzej Przekwas
Andrzej J. Przekwas, PhD1, Mahadevabharath R. Somayaji, PhD1, Debarun Das, MSc1, Zhijian J. Chen, PhD1, Frank J. Lebeda, PhD2, Anthony E. Pusateri, PhD3, Ranjan K. Dash, PhD4, Anand K. Ramasubramanian, PhD5
1CFD Research Corporation, Huntsville, AL, 2US Army MRMC, Fort Detrick, MD, 3US Army Institute of Surgical Research, Fort Sam Houston, TX, 4Medical College of Wisconsin (MCW), Milwaukee, WI, 5San Jose State University (SJSU), San Jose, CA

OPEN POSTER SESSION 2 - #701

MHSRS-18-1854 POSTER SESSION 2 - #702
“Blood Typing Kits: An Extreme Environmental Comparison Study for Military Application”
Presentation Author: Mr. Wilbur Malloy
1LT Jessica A. Bradley, BS, MLS (ASCP), SBB1, LTC (Ret) Wilbur W. Malloy, MA, MLS (ASCP)SBB2, COL Clayton D. Simon, MC1
1Keesler Medical Center, Keesler AFB, MS, 2Congressionally Directed Medical Research Program, Ft Detrick, MD, 3Joint Pathology Center, National Capital Region, Silver Spring, MD

MHSRS-18-1896 POSTER SESSION 2 - #703
Impact of Rapid Transfusion Devices on Whole Blood Platelet count, Platelet Function, & Hemostatic Potential
Presentation Author: Dr. Bryan Cotton
Mouayyad Zaza, MD, Yao-Wei Wang, MD, Mitchell George, MD, Charles E. Wade, PhD, Jessica C. Cardenas, PhD, Bryan A. Cotton, MD, MPH
The University of Texas Health Science Center, Houston, TX

MHSRS-18-2040 POSTER SESSION 2 - #705
Emergency Fresh Whole Blood Collection for Combat Casualty Care in the Pre-hospital Setting: Implementation of the Walking Blood Bank Training Program
Presentation Author: CPT Jacquelyn Messenger
CPT Jacquelyn Messenger, MS1, Sarah Matthews, MS2, Jason Corley, MS3, Ronnie Hill, MS4
1Army Blood Program, San Antonio, TX, 2Madigan Army Medical Center, Tacoma, WA, 3Brooke Army Medical Center, San Antonio, TX, 4US Central Command, Qatar
MILITARY WOMEN’S HEALTH

MHSRS-18-0008 POSTER SESSION 2 - #706
Antimicrobial Blue Light Inactivation of Neisseria Gonorrhoeae: Implications for the Treatment of Multidrug-Resistant Gonococcal Infections
Presentation Author: Dr. Tianhong Dai
Ying Wang, MD, PhD1,2, Raquel Ferrer-Espada, PhD1, Xueping S. Goh, BS1, Clinton K. Murray, MD3, Tianhong Dai, PhD1
1Massachusetts General Hospital, Harvard Medical School, Boston, MA, 2Chinese PLA General Hospital, Beijing, China, 31st Area Medical Laboratory, US Army, Aberdeen, MD

MHSRS-18-0012 POSTER SESSION 2 - #707
Antimicrobial Blue Light Therapy for Urinary Tract Infections: Effectiveness & Safety
Presentation Author: Dr. Raquel Ferrer-Espada
Raquel Ferrer-Espada, PhD1, Yanyan Fang, PhD1, Ying Wang, MD, PhD1, Soroush Shabahang, PhD1, Daisaku Yoshida, PhD1, Kathryn D. Held, MD, PhD2, Clinton K. Murray, MD2, Tianhong Dai, PhD1
1Massachusetts General Hospital, Harvard Medical School, Boston, MA, 21st Area Medical Laboratory, US Army, Aberdeen, MD

MHSRS-18-0049 POSTER SESSION 2 - #708
Engineering of Volumetric Skeletal Muscle Tissue for Accelerated Restoration of Pelvic Floor Muscle Function
Presentation Author: Dr. Ji Hyun Kim
Ji Hyun Kim, PhD, In Kap Ko, PhD, Myung Jae Jeon, MD, PhD, Ickhee Kim, MD, PhD, Sang Jin Lee, PhD, Anthony Atala, MD, James J. Yoo, MD, PhD
Wake Forest School of Medicine, Winston-Salem, NC

MHSRS-18-0108 POSTER SESSION 2 - #709
Cost for Breast Cancer Care & Clinical Outcomes in the US Military Health System: An Analysis by Care Source
Presentation Author: Dr. Yvonne Eaglehouse
Yvonne L. Eaglehouse, PhD, MPH1,2, Matthew W. Georg, MPH3, Patrick Richard, PhD, MA2, COL Craig D. Shriver, USA, MC1,2, Kangmin Zhu, MD, PhD1,2
1Uniformed Services University of the Health Sciences (USUHS) & Walter Reed National Military Medical Center, Bethesda, MD, 2USUHS, Bethesda, MD

MHSRS-18-0111 POSTER SESSION 2 - #710
Costs for Breast Cancer Care in the US Military Health System: An Analysis by Benefit Type & Care Source
Presentation Author: Dr. Yvonne Eaglehouse
Yvonne L. Eaglehouse, PhD, MPH1,2, Janna Manjelievskaia, PhD, MPH1, Stephanie Shao, MPH1, Derek Brown, MS1, Keith Hofmann, BS3, Patrick Richard, PhD, MA2, COL Craig D. Shriver, USA, MC1,2, Kangmin Zhu, MD, PhD1,2
1Uniformed Services University of the Health Sciences (USUHS) & Walter Reed National Military Medical Center, Bethesda, MD, 2USUHS, Bethesda, MD, 3Kennel & Associates Inc, Falls Church, VA

MHSRS-18-0112 POSTER SESSION 2 - #711
Time to Surgery & Overall Survival: Comparison of Black & White Women Diagnosed with Breast Cancer in the US Military Health System
Presentation Author: Dr. Yvonne Eaglehouse
Yvonne L. Eaglehouse, PhD, MPH1,2, Matthew W. Georg, MPH1, COL Craig D. Shriver, USA, MC1,2, Kangmin Zhu, MD, PhD1,2
1Uniformed Services University of the Health Sciences (USUHS) & Walter Reed National Military Medical Center, Bethesda, MD, 2USUHS, Bethesda, MD
MHSRS-18-0124  POSTER SESSION 2 - #712
Inadvertent Vaccination in Pregnancy: National Smallpox Vaccine in Pregnancy Registry & BioThrax® (Anthrax) Vaccine in Pregnancy Registry
Presentation Author: Ms. Katherine Snell
Katherine J. Snell1, Ava Marie S. Conlin, DO, MPH1, Gia R. Gumbs, MPH1, Anna T. Bukowinski, MPH1, Zeina Khodr, PhD2, Susan C. Farrish, MD, MPH2
1Henry M. Jackson Foundation for the Advancement of Military Medicine Inc, Bethesda, MD, 2Naval Health Research Center, San Diego, CA

MHSRS-18-0188  POSTER SESSION 2 - #713
New Paradigm in the Genesis of Ovarian Cancer & its Clinical Potential
Presentation Author: Dr. Ie-Ming Shih
Ie-Ming Shih, MD, PhD1, Douglas Levine, MD2, Kala Visvanathan, MD1, Patricia Shaw, MD3, Tian-Li Wang, PhD2
1Johns Hopkins Medical Institution, Baltimore, MD, 2New York University Hospital, New York, NY, 3University of Toronto Health System, Toronto, Canada

MHSRS-18-0319  POSTER SESSION 2 - #714
Implementation of Venous Thromboembolism Prophylaxis After Cesarean at a
Presentation Author: CAPT Barbara Saber
Capt Barbara Saber, USAF, MC, MD, LCDR Aaron Poole, USN, MC
Naval Medical Center Portsmouth, Portsmouth, VA

MHSRS-18-0393  POSTER SESSION 2 - #715
Integrated Proteogenomic Analysis of Laser Microdissected Primary Breast Tumors Define Proteome Clusters
Presentation Author: Dr. Praveen-Kumar Raj-Kumar
Praveen-Kumar Raj-Kumar, PhD1, Tao Liu2, Lori A. Sturtz2, Albert J. Kovatich3, Marina A. Gritsenko2, Vladislav A. Petyuk2, Brenda Deyamin1, Viswanadham Sridhara3, James Craig2, Jason E. McDermott2, Anil K. Shukla2, Ronald J. Moore3, Matthew E. Monroe3, Bobbie-Jo M. Webb-Robertson3, Jeffrey A. Hooke3, Leigh Fantacone-Campbell3, Leonid Kvecher1, Jianfang Liu1, Jennifer Kane1, Jennifer Melley1, Stella Somiari1, Stephen C. Benz4, Justin Golovato4, Shahrooz Rabizadeh5, Patrick Soon-Shiong6, Richard D. Smith2, Richard J. Mural1, Karin D. Rodland2, Craig D. Shriver2, Hai Hu1
1Chan Soon-Shiong Institute of Molecular Medicine at Windber, Windber, PA, 2Pacific Northwest National Laboratory, Richland, WA, 3Uniformed Services University/Walter Reed National Military Medical Center, Bethesda, MD, 4NantOmics, Culver City, CA, 5NantWorks, Culver City, CA

MHSRS-18-0459  POSTER SESSION 2 - #716
Polycystic Ovary Syndrome in Active Duty Service Women
Presentation Author: Lt Col Kim Hopkins

MHSRS-18-0488  POSTER SESSION 2 - #717
Improved Understanding of the Etiology of Breast Cancer in Young Women Through Evaluation of the Genomic Landscape
Presentation Author: Dr. Rachel Ellsworth
Matthew D. Wilkerson1, Clifton L. Dalgard1, Craig D. Shriver1,2, Rachel E. Ellsworth2
1Uniformed Services University, Bethesda, MD, 2Walter Reed National Military Medical Center, Bethesda, MD
Poster Session II

MHSRS-18-0766  POSTER SESSION 2 - #718
Proteomic Profiling of Chemotherapy Naïve Versus Neoadjuvant Treated Ovarian Tumors
Presentation Author: MAJ Emily Penick
MAJ Emily Penick, MD, Paulette Mhawech-Fauceglia, MD, Kelly Conrads, PhD, Nicholas Bateman, PhD, Guisong Wang, MS, Niyati Parikh, PhD, Brian Hood, PhD, Kathleen M. Darcy, PhD, Yovanni Casablanca, MD, Chad A. Hamilton, MD, G. Larry Maxwell, PhD, Thomas P. Conrads, MD
1Uniformed Services University of the Health Sciences (USUHS) & Walter Reed National Military Medical Center, Bethesda, MD, 2USUHS, Bethesda, MD, 3University of Southern California, Los Angeles, CA, 4Inova Fairfax Medical Campus, Falls Church, VA, 5Inova Center for Personalized Health, Fairfax, VA

MHSRS-18-0774  POSTER SESSION 2 - #719
Quantitative Proteomic Analyses of Uterine Leiomyomas from Hereditary Leiomyomatosis & Renal Cell Cancer Patients
Presentation Author: Dr. Nicholas Bateman
Nicholas Bateman, PhD, Christopher Tarney, MD, Niyati Parikh, PhD, Ming Zhou, PhD, Kelly Conrads, PhD, James Segars, MD, Paul Driggers, PhD, Kathleen M. Darcy, PhD, Yovanni Casablanca, MD, Chad A. Hamilton, MD, G. Larry Maxwell, MD, Thomas Conrads, PhD
1Uniformed Services University of the Health Sciences (USUHS) & Walter Reed National Military Medical Center, Bethesda, MD, 2USUHS, Bethesda, MD, 3Walter Reed National Military Medical Center, Bethesda, MD, 4Inova Center for Personalized Health, Fairfax, VA, 5Johns Hopkins University Medical Center, Baltimore, MD, 6Inova Fairfax Medical Campus, Falls Church, VA

MHSRS-18-0785  POSTER SESSION 2 - #720
Differential Proteomic Analysis of Metformin Response in a Preoperative Window Clinical Trial for Endometrial Cancer
Presentation Author: Dr. Thomas Conrads
Thomas P. Conrads, PhD, Erica Hope, MD, Christopher M. Tarney, MD, Nicholas W. Bateman, PhD, Brian L. Hood, PhD, Kathleen M. Darcy, PhD, Yovanni Casablanca, MD, Chad A. Hamilton, MD, G. Larry Maxwell, MD, Victoria Bae-Jump, MD
1Uniformed Services University of the Health Sciences (USUHS) & Walter Reed National Military Medical Center (WRNMMC), Bethesda, MD, 2USUHS, Bethesda, MD, 3Inova Center for Personalized Health, Fairfax, VA, 4Inova Fairfax Medical Campus, Falls Church, VA, 5WRNMMC, Bethesda, MD, 6University of North Carolina at Chapel Hill, Chapel Hill, NC

MHSRS-18-0793  POSTER SESSION 2 - #721
Proteomic Analysis of Uterine Leiomyomas in African Americans & Caucasians: Insight into this Profound Health Disparity
Presentation Author: Dr. Larry Maxwell
G. Larry Maxwell, MD, Christopher M. Tarney, MD, Nicholas W. Bateman, PhD, Brian L. Hood, PhD, Kathleen M. Darcy, PhD, Yovanni Casablanca, MD, Thomas P. Conrads, PhD
1Uniformed Services University of the Health Sciences (USUHS) & Walter Reed National Military Medical Center (WRNMMC), Bethesda, MD, 2USUHS, Bethesda, MD, 3Inova Fairfax Medical Campus, Falls Church, VA, 4Inova Center for Personalized Health, Fairfax, VA, 5WRNMMC, Bethesda, MD

OPEN  POSTER SESSION 2 - #722

MHSRS-18-0931  POSTER SESSION 2 - #723
Simvastatin Regulates Proliferation & Extracellular Matrix Production in Uterine Leiomyoma
Presentation Author: MAJ Justin Pilgrim
Minnie Malik, PhD, Joy Britten, MD, Terrence Lewis, MD, MAJ Justin Pilgrim, MD, Toral Parikh, MD, Jasmin Aly, MD, Jacob Arismendi, PhD, James Segars, MD, Mostafa A. Bohray, MD, William H Catherino, MD, PhD
1Uniformed Services University of the Health Sciences, Bethesda, MD, 2Walter Reed National Military Medical Center, Bethesda, MD, 3John Hopkins University, Baltimore, MD
MHSRS-18-0934 POSTER SESSION 2 - #724
Yellow Fever Vaccination in Relation to Pregnancy Among US Active Duty Military Women
Presentation Author: Mr. Richard Chang
Richard N. Chang, MPH1, Anna T. Bukowinski, MPH1, Zeina G. Khodr, PhD1, Gia R. Gumbs, MPH1, Ava Marie S. Conlin, DO, MPH2, Susan C. Farrish, MD, MPH1
1The Henry M. Jackson Foundation for the Advancement of Military Medicine Inc, Bethesda, MD, 2Naval Health Research Center, San Diego, CA

MHSRS-18-0937 POSTER SESSION 2 - #725
Japanese Encephalitis Vaccination in Pregnancy Among US Active Duty Military Women
Presentation Author: Mr. Richard Chang
Richard N. Chang, MPH1, Zeina G. Khodr, PhD1, Anna T. Bukowinski, MPH1, Gia R. Gumbs, MPH1, Susan C. Farrish, MD, MPH2, Ava Marie S. Conlin, DO, MPH1
1The Henry M. Jackson Foundation for the Advancement of Military Medicine Inc, Bethesda, MD, 2Naval Health Research Center, San Diego, CA

MHSRS-18-0957 POSTER SESSION 2 - #726
Development of a Comprehensive, Immersive Reality-Based Health Tool to Engage Women in Breast Health Education
Presentation Author: Dr. Jessica Olson
Jessica Olson, PhD, MPH, Sailaja Kamaraju, MD, MS, Melissa DeNomie, Melinda Stolley, PhD
Medical College of Wisconsin, Milwaukee, WI

MHSRS-18-0984 POSTER SESSION 2 - #727
Advancing Translation of Disparities in Survivorship in Breast & Gynecologic Cancer by Marital Status
Presentation Author: Dr. Kathleen Darcy
Neil Phippen, MD1, Eva K. Welch, MD2, Chunqiao Tian, PhD3, Guisong Wang, MS3, Ying Huang, MD1, William J. Lowery, MD3, Nicholas W. Bateman, PhD3, Thomas P. Conrads PhD1,2, Chad A. Hamilton, MD3, Yovanni Casablanca, MD1, G. Larry Maxwell, MD1,2,3,4, Kathleen M. Darcy, PhD1
1Brooke Army Medical Center, Fort Sam Houston, TX, 2Inova Fairfax Hospital, Falls Church, VA, 3Uniformed Services University of the Health Sciences & Walter Reed National Military Medical Center, Bethesda MD, 4Inova Center for Personalized Health, Falls Church, VA

MHSRS-18-1131 POSTER SESSION 2 - #728
Clinical Decision Support in Uncontrolled Hypertension: Male Versus Female Outcomes in Military Beneficiaries
Presentation Author: LTC Leilani Siaki
LTC Leilani A. Siaki, PhD, NP-BC, FAANP, Sem Chan1, CDR Victor S. Lin, MD1, Robert Marshall, MD, MPH, MISIM, FFAFP1, Robert D. Higley, MD, MPH, FACC, RWJCS2, Maj Andrew J. Holdaway, MD3, COL Neris Nieves-Robbins, MD3, Mr. Keith Solveson, MS4
1Madigan Army Medical Center, Tacoma, WA, 2Analytics4Medicine, Kirkland, WA, 3Defense Health Headquarters, Falls Church, VA

MHSRS-18-1142 POSTER SESSION 2 - #729
Molecular Assessments of Residual Disease Status, Suboptimal Debulking & Poor Prognosis in Women with Serous Ovarian Cancer
Presentation Author: Dr. Kathleen Darcy
Neil Phippen, MD1,2, Guisong Wang, MS1, Chunqiao Tian, PhD1, Ying Huang, MD1, Charbel Awad, MD3, Nicholas W. Bateman, PhD3, Chad A. Hamilton, MD3, Yovanni Casablanca, MD1, Thomas P. Conrads, PhD1,2, G. Larry Maxwell, MD1,2,3,4, Kathleen M. Darcy, PhD1
1Uniformed Services University of the Health Sciences & Walter Reed National Military Medical Center, Bethesda MD, 2Brooke Army Medical Center, Fort Sam Houston, TX, 3Inova Fairfax Hospital, Falls Church, VA, 4Inova Center for Personalized Health, Falls Church, VA
MILITARY HEALTH SYSTEM RESEARCH SYMPOSIUM

Poster Session II

MHSRS-18-1288  POSTER SESSION 2 - #730
rs11670527 Upstream of ZNF264 was Associated with Body Mass Index in the Coriell Personalized Medicine Collaborative
Presentation Author: Dr. Dara Kusic
Dara M. Kusic¹, Wendy N. Roberts¹, Stefan C. Zajic¹, Joseph P. Jarvis¹, Pan Zhang¹, Kaveri D. Rajula², Ruth Brenner², Michael P. Dempsey³, Michael F. Christman³
¹Coriell Institute for Medical Research, Camden, NJ, ²Air Force Medical Support Agency, Falls Church, VA, ³Defense Threat Reduction Agency, Fort Belvoir, VA

MHSRS-18-1297  POSTER SESSION 2 - #731
Analysis of Breast Cancer Recurrences Applying an Aptamer-Based Technology Using Plasma Samples
Presentation Author: Mrs. Anupama Praveen Kumar
Anupama Praveen Kumar¹, Albert J Kovatich², Angélique Biancotto³, Foo Cheung³, Jan K. Davidson-Moncada⁴, Leonid Kvecher⁵, Jianfang Liu¹, Yuanbin Ru¹, Audrey W. Kovatich⁶, Brenda Deyarmin⁷, Jamie Leigh Fantacone-Campbell⁸, Jeffrey A Hooke⁹, Praveen Kumar Raj Kumar¹, Hallgeir Rui⁵, Hai Hu¹, Craig D. Shriver²
¹Chan Soon-Shiong Institute of Molecular medicine at Windber, Windber, PA, ²Uniformed Services University / Walter Reed National Military Medical Center, Bethesda, MD, ³National Institutes of Health, Bethesda, MD, ⁴MacroGenics Inc, Rockville, MD, ⁵MDR Global Systems, Windber, PA, ⁶Medical College of Wisconsin, Milwaukee, WI

MHSRS-18-1359  POSTER SESSION 2 - #732
Effects of Concussion History on Center of Mass Motion During Modified Balance Error Scoring System (BESS) Testing in Women
Presentation Author: Dr. Stephen Glass
Stephen Glass, PhD, Alessandro Napoli, PhD, Iyad Obeid, PhD, Carole Tucker, PT, PhD
Temple University, Philadelphia, PA

MHSRS-18-1441  POSTER SESSION 2 - #733
Knowledge Assessment of United States Army Combat Medics in the Management of Postpartum Hemorrhage
Presentation Author: CPT Joshua Monson
CPT Joshua W. Monson, DO, Tremaine Winstead, MA, Cristobal S Berry-Caban, PhD Womack Army Medical Center, Fort Bragg, NC

MHSRS-18-1482  POSTER SESSION 2 - #734
Portable Iron Screening System for Point-of-Care Iron Status Determination
Presentation Author: Dr. Ketan Bhatt
Ketan Bhatt, PhD, Hongjun Song, PhD, Mary Arugula, PhD, Dustin Haithcock, BS, Prabhakar Pandian, PhD, Kapil Pant, PhD
CFD Research Corporation, Huntsville, AL

MHSRS-18-1584  POSTER SESSION 2 - #735
Characterization of Male & Female C57BL/6 Mouse Models for Use in Humanized-Gut Microbiome Studies
Presentation Author: Ms. Lindy Caffo
Lindy M. Caffo, MS¹,², Matthew G. Permenter, MS¹,², Joshua B. Richardson, PhD¹,³, Deborah Sadler¹,², Jason M. Koontz, PhD², Blair C. R. Dancy, PhD³, John A. Lewis, PhD³, Valerie Trabosh DiVito, PhD³
¹US Army Center for Environmental Health Research, Fort Detrick, MD, ²Excet Inc, Fort Detrick, MD, ³Oak Ridge Institute for Science & Education, Fort Detrick, MD
FROM BENCH TO BATTLEFIELD: TRANSLATING PROMISING RESEARCH INTO FIELDED CAPABILITIES

MHSRS-18-0165 POSTER SESSION 2 - #736
PROJECT MANAGEMENT & RESOURCE ESTIMATION TO DRIVE IMPACT
Presentation Author: Mr. Peter Kelley
Peter Kelley, Shannon Gatewood, MPH

MHSRS-18-0684 POSTER SESSION 2 - #737
Leveraging the Synergistic Power of Team Science: Lessons Learned from DoD-Funded Research Consortia
Presentation Author: Dr. Alan Peterson
Alan Peterson, PhD1,3, David X. Cifu, MD4, Thomas E. Joiner, PhD5, Rick L. Williams, PhD6, Terence M. Keane, PhD7,8, Sidney R. Hinds II, MD9, Peter M. Gutierrez, PhD10, Thomas R. Kosten, MD11
1University of Texas Health Science Center at San Antonio, San Antonio, TX, 2South Texas Veterans Health Care System, San Antonio, TX, 3University of Texas at San Antonio, San Antonio, TX, 4Virginia Commonwealth University School of Medicine, Richmond, VA, 5Florida State University, Tallahassee, FL, 6RTI International, Research Triangle Park, NC, 7VA Boston Healthcare System, Boston, MA, 8Boston University, Boston, MA, 9US Army Medical Research & Material Command, Fort Detrick, MD, 10VA Rocky Mountain MIRECC for Veteran Suicide Prevention, Denver, CO, 11Baylor College of Medicine, Houston, TX

MHSRS-18-0775 POSTER SESSION 2 - #738
An Overview of the CIMIT Guidance & Impact Tracing System (GAITS) to Support Teams in Speeding Dual-Benefit Healthcare Innovations into Practice
Presentation Author: Dr. John Collins
John Collins, PhD, Mike Dempsey, Steven Schachter, MD, John Parrish, MD CIMIT, Boston, MA

MHSRS-18-1063 POSTER SESSION 2 - #739
Regulatory Implications of User Needs & Environment in Medical Device Development
Presentation Author: Dr. Chandar Thakur
Chandar Thakur, PhD, Lisa Borek, RAC, Shree Koushik, PhD, Noel Laing, BS, Monika Lunn, MS
Office of Regulated Activities, Fort Detrick, MD

MHSRS-18-1082 POSTER SESSION 2 - #740
Translating Advances in Hemorrhage Control Devices from the Military Bench to the Battlefield: Building on a Successful Partnership Between the Military, Industry, & Academia in Advanced Product Development
Presentation Author: Dr. David Baer
David G. Baer, PhD1, Curtis J. Franklin2, BSE, Col Todd E. Rasmussen, MD2
1Prytime Medical Devices, Boerne, TX, 2Uniformed Services University of the Health Sciences, Bethesda, MD

MHSRS-18-1093 POSTER SESSION 2 - #741
Bridging the Gap: Optimizing Research-Practice Integration to Improve Health & Readiness
Presentation Author: Dr. Richard Stoltz
Richard Stoltz, PhD Defense Health Agency, Fall Church, VA

MHSRS-18-1099 POSTER SESSION 2 - #742
Follow-On to CRADAs to Conduct End-User Feedback Sessions for Iterative Product Development
Presentation Author: Christine Wasner
Christine Wasner, Nicolle Thompson, Brian Dacanay, Edward Brown, John Miller
USAMMA, Fort Detrick, MD
FUTURE NEEDS FOR DoD MEDICAL ACQUISITION PROGRAMS

MHSRS-18-0868 POSTER SESSION 2 - #743
Technology Transfer at DHA Supports DoD Acquisition Programs by Identifying & Transitioning New & Enhanced Capabilities
Presentation Author: CAPT Sally Hu
CAPT Sally Hu, PhD, MBA, Jane Tang, PhD
Defense Health Agency, Falls Church, VA

MHSRS-18-2072 POSTER SESSION 2 - #744
Noncompressible Hemorrhage Control in the Pre-Medical Treatment Facility Environment
Presentation Author: Ms. Caitlyn Felkoski

MHSRS-18-2076 POSTER SESSION 2 - #745
Temporary Corneal Repair Product Development
Presentation Author: Ms. Leigh Alexander

MANUFACTURING INNOVATION

MHSRS-18-0215 POSTER SESSION 2 - #746
Developments of Integrated, Multi-Functional Biofabrication Systems for Regenerative Medicine & Biological Screening
Presentation Author: Dr. Yunzhi Yang
Yunzhi Yang, PhD, Chi-chun Pan, MS, Arnaud Bruyas, PhD
Stanford University, Stanford, CA

MHSRS-18-0777 POSTER SESSION 2 - #747
Development of a Universal Bionink Platform Technology for Cross-Platform Compatibility Across Bioprinter Hardware & Support of Multiple Tissue Construct Types
Presentation Author: Dr. Aleksander Skardal
Richard Connor Huntwork¹, Andrea R. Mazzocchi², Hema Sivakumar², Casey C. Clark¹, Julio Aleman², Mahesh Devarasetty², Aleksander Skardal¹²
¹Wake Forest School of Medicine, Winston Salem, NC, ²Comprehensive Cancer Center at Wake Forest Baptist Medical, Winston Salem, NC

MHSRS-18-1124 POSTER SESSION 2 - #748
Tissue Biofabrication of Cardiovascular Devices Using Nanotechnology Platforms in Military Personnel
Presentation Author: Dr. Brandon Tefft
Brandon Tefft, PhD, Susheil Uthamaraj, MS, Joshua Choe¹, Kent Carlson, PhD, Gurpreet Sandhu, MD, PhD, Dan Dragomir-Daescu, PhD
Mayo Clinic, Rochester, MN

MHSRS-18-1609 POSTER SESSION 2 - #749
Nondestructive Inspection of Complex Drug Products
Presentation Author: Dr. Bruce Yu
Bruce Yu, PhD, Marc Taraban, PhD, Katharine Briggs, PhD
University of Maryland School of Pharmacy, Baltimore, MD

MHSRS-18-1997 POSTER SESSION 2 - #750
A Chemically-Defined, & Xeno-Free Cell Culture Medium for Clinical Manufacturing
Presentation Author: Dr. Ronald Nelson Jr.
Wake Forest Institute for Regenerative Medicine, Winston Salem, NC