



ELITE

RESEARCH SYMPOSIUM

DATES

April 3-4, 2025

LOCATION

Aurora, Colorado



SYMPOSIUM ATTENDEE PACKET

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Our team leverages over 100 years of combined military experience to address current military medicine research gaps and translate solutions to our local civilian communities.

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ELITE Symposium features keynote speakers with expertise spanning military operations, medical care, research, innovation, and leadership.

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ELITE Symposium Sponsors

Sincere thanks to our Platinum, Gold, and Silver level sponsors who made this event possible.

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Campus Map

A high level map of campus and QR code to the online, interactive map.

ABOUT THE ELITE RESEARCH SYMPOSIUM: EDUCATING LEADERS FOR INNOVATION & TEAM RESEARCH

This working meeting is organized around keynote lectures, facilitated workgroup discussion, and research poster presentations. Participants will identify strategic and operational plans to solve the U.S. military's toughest medical challenges. Our invitation-only panel of experts will lead work groups for real-time collaboration and creative solutions for cutting-edge medical capabilities that save and improve warfighter lives and support force readiness.

Learning objectives are:

- 1.** Military operational, medical, and bioscience work group leaders will set challenges and facilitate collaboration on health care research and innovations designed to improve medical capabilities.
- 2.** Work groups will integrate leaders from academia, government, and industry to create new approaches that could accelerate progress on cutting edge medical capabilities and improve widespread force readiness.
- 3.** For all suggested medical research and innovation, ELITE work groups will identify steps to i) enable success in the warfighting mission and ii) expand benefits beyond warfighters to our civilian communities.





ABOUT THE CU CENTER FOR COMBAT RESEARCH

The CU Center for COMBAT Research aims to turn military medical gains into better health care for all. We facilitate the execution of combat and deployment-related medical research by navigating successful relationships with military scientists, clinical investigators, military leaders, and industry to produce successful innovations, material solutions, and high impact knowledge products. Our team leverages over 100 years of combined military experience to address current military medicine research gaps and translate solutions to our local civilian communities.

The CU Center for COMBAT Research recognizes the importance of education and mentorship in advancing the next generation of military physicians and researchers. We recruit, train, and mentor physicians and researchers across the pipeline from students in our COMBAT Research scholar program, to active duty residents and fellows, to established investigators and mentors.

Through research, education, and collaboration, we are driven to solve the U.S. military's toughest medical challenges.



100+

Investigators

80+

Funded Projects

50+

*Government,
Academic &
Industry Partners*



CU Center for COMBAT Research

ELITE Research Symposium



Colonel Vikhyat Bebarta, MD (USAF)

*Founding Director, CU Center for COMBAT Research
Professor and Interim Chair, Department of Emergency Medicine*

Dr. Bebarta (Colonel, USAF) is a Professor at the University of Colorado (CU) School of Medicine and a distinguished leader in emergency medicine, military medicine, medical toxicology, and pharmacology. He is the Founding Director of the CU Anschutz Center for COMBAT Research and Interim Chair for the Department of Emergency Medicine. With an international reputation, Dr. Bebarta's work has significantly shaped combat casualty care, resuscitation, and chemical countermeasure drug development. He has been continuously federally funded for 20 years, focusing on both military and civilian trauma care. A veteran of four combat deployments, he has held several key military leadership roles, including Director of the Enroute Care Research Center and Branch Chief of the Joint Trauma System and published on combat casualty care, enroute care, military medicine, and drug development. Dr. Bebarta's mission is to continuously push the boundaries of medical research, innovation, and clinical care, bridging the gap between military and civilian health systems, and fostering a future where advanced care is universally accessible.



Kathleen Flarity, DNP, PhD (Brigadier General, USAF Retired)

*Executive Director, Marcus Institute for Brain Health
Co-Founder and Deputy Director, CU Center for COMBAT Research
Associate Professor, Department of Emergency Medicine*

Brig Gen (Ret) Kathleen Flarity, DNP, PhD, FAEN, FAAN is the Executive Director of the Marcus Institute for Brain Health, the Co-Founder and Deputy Director of the CU Center for COMBAT Research, and Associate Professor of Emergency Medicine. She is an experienced researcher, nurse practitioner and emergency and critical care flight nurse. She has over 41 years of military service from Army combat medic to Air Force General. Her service includes multiple deployments and commands, most recently serving as the Mobilization Assistant to the Command Surgeon, Air Mobility Command (Scott AFB, IL). Dr. Flarity's passion for treatment and research interest is in PTSD, TBI and resiliency for our nation's heroes. She has provided her resiliency intervention (grounded in positive psychology, neuroscience, cognitive psychology, and human performance science) to thousands of military/civilian heroes.



Jonathan Boyd, PhD

*Threat Exposure and Medical Countermeasures Scientific Lead, CU Center for COMBAT Research
Professor, Department of Emergency Medicine*

Dr. Boyd is a distinguished professor and researcher in the field of toxicology and pharmacology. He currently holds multiple appointments at the University of Colorado School of Medicine, including Professor in the Department of Emergency Medicine and the Department of Pharmaceutical Sciences, as well as the Advanced Threats and Countermeasure Scientific Lead at the Center for Combat Medicine and Battlefield Research. Dr. Boyd's research focuses on the mechanisms of inflammatory response to chemical, biological, and physical stressors. Dr. Boyd has been the principal investigator on numerous high-impact research projects funded by agencies such as the Defense Threat Reduction Agency and the National Institutes of Health resulting in an extensive publication record. Throughout his career, Dr. Boyd has received several awards and honors, including the Defense Advanced Research Projects Agency Young Faculty Award. His work continues to advance the understanding of toxicological processes and their implications for human health and safety.



Jessica Cardenas, PhD

*Trauma & Coagulation Lead, CU Center for COMBAT Research
Associate Professor, Department of Surgery*

Dr. Cardenas is an Associate Professor in the Department of Surgery and Division of GI, Trauma, and Endocrine Surgery at the University of Colorado and the Trauma & Coagulation Lead for the CU Center for COMBAT Research. Her areas of expertise are hemostasis, thrombosis, and endothelial regulation of inflammation and coagulation during acute illness. In particular, her work aims to develop novel hemostatic adjuncts for mitigating hemorrhage, examine the role of endothelial heparan sulfates regulating thromboinflammation and organ injury after hemorrhagic shock, identify immune mechanisms driving post-injury thromboembolic complications, and develop improved pharmaceuticals for thromboprophylaxis. Her team utilizes basic, translational, and clinical research approaches to improve outcomes in the critically ill. Dr. Cardenas is consistently funded by DOD, NIH, and industry.



Todd Getz, PhD

*Assistant Director of Technology and Innovation, CU Center for COMBAT Research
Associate Professor, Department of Emergency Medicine*

Dr. Getz is the Assistant Director of Technology and Innovation for the CU Center for COMBAT Research. He has extensive expertise in platelet physiology which he leverages to investigate the impact of storing platelets in the cold, and other platelet optimization such as developing a lyophilized platelet and a novel citrate-free platelet additive solution. Dr. Getz's prior experience includes leading research innovation within a small biotech company and the American Red Cross, and the DOD as the Blood Portfolio for Battlefield Resuscitation and Combat Casualties Research Portfolio Manager. At CU, Dr. Getz helps identify novel solutions in development by industry partners addressing military medical gaps for potential collaboration with CU researchers. He provides education and mentorship to CU investigators working with industry collaborators and preparing for regulatory submissions. He is passionate about utilizing his unique training experience to help develop and drive new drugs, devices and therapies through the pipeline to treat trauma casualties and improve clinical outcomes.



Tara Hendry-Hofer, MSN, RN

*Preclinical Research Lead, CU Center for COMBAT Research
Program Manager, TRIAD Research Laboratory*

Tara Hendry-Hofer, MSN, RN is the Program Manager for the TRIAD Research Laboratory and the Preclinical Research Lead for the CU Center for COMBAT Research. TRIAD works collaboratively with researchers and clinicians around the world to bring lifesaving, innovative discoveries from the bench to the bedside. Ms. Hendry-Hofer has 20 years of experience in drug development and conducting clinically relevant, translational research studies. As Program Manager, she oversees and facilitates execution of all TRIAD research studies and in collaboration with CU's partners around the US. Ms. Hendry-Hofer also works closely with Military Fellows teaching them hands-on study procedures, as well as helping them establish themselves as scientific investigators.



Sean Keenan, MD (Colonel, USA Retired)

*Assistant Director of Prehospital and Prolonged Care, CU Center for COMBAT Research
Associate Clinical Professor, Department of Emergency Medicine*

Dr. Keenan serves as the Assistant Director of Prehospital and Prolonged Care for the CU Center for COMBAT Research. He is an Associate Clinical Professor of Emergency Medicine at CU Anschutz and an Adjunct Associate Professor of Military and Emergency Medicine at the Uniformed Services University. He also serves as a prehospital and austere medicine consultant to the DOD Joint Trauma System. Dr. Keenan is the UC Health Prehospital Medical Director for Teller County in Colorado and surrounding regions. He is Board Certified in Emergency Medicine and Emergency Medical Services, with a particular interest in wilderness, remote, and austere medicine. He spent 27 years on active duty, including 13 years directly supporting or assigned to Special Operations Forces units, with five combat deployments. He is on the Board of Directors for Special Operations Medical Association (SOMA) and the Trauma Hemostasis and Oxygenation Research (THOR) Network Steering Committee.



Anne Libby, PhD

Scientist Development Lead, CU Center for COMBAT Research

Professor and Vice Chair for Academic Affairs, Department of Emergency Medicine

Dr. Libby is a tenured Professor and Vice Chair for Academic Affairs in the Department of Emergency Medicine, University of Colorado School of Medicine at CU Anschutz, and the Scientist Development Lead for the CU Center for COMBAT Research. Since joining CU in 2000, Dr. Libby built a national reputation in outcomes research on the organization and financing of health care systems, focused on behavioral health and foundation and federally funded investigator-initiated projects and training grants. An expert on mentored research and faculty development, Dr. Libby co-founded the Education, Training, and Career Development Core of the Colorado Clinical and Translational Sciences Institute, and trains thousands of researchers at CU and worldwide; 20,000 learners enrolled in her online course on research management and leadership, and 2,000 in the new course on health grant writing. Dr. Libby is the senior faculty and scientist training lead for the CU Center for COMBAT Research.



Anne Ritter, DrPH, MPH

Associate Director, CU Center for COMBAT Research

Associate Professor, Department of Emergency Medicine

Dr. Ritter is the Associate Director for the CU Center for COMBAT Research and Associate Professor of Emergency Medicine, University of Colorado School of Medicine. Dr. Ritter is a clinical trauma epidemiologist, with a particular interest in traumatic brain injury, who significantly contributes to multidisciplinary teams of clinician researchers and scientists. She leverages her prior experience managing the Prolonged Care Research Portfolio at the Medical Research and Development Command to lead strategic planning efforts for the CU Center for COMBAT Research and to mentor CU researchers on DOD medical capability gaps in future multi-domain operations and large-scale combat operations. In addition, Dr. Ritter directs the CU Center for COMBAT Research Scholar and Fellow programs, designed to provide research education and mentoring to CU health professional students and trainees passionate about military relevant medical research.



Ian H. Stanley, PhD

Psychological Health Lead, CU Center for COMBAT Research

Associate Professor, Department of Emergency Medicine

Dr. Stanley is the Psychological Health Lead for the CU Center for COMBAT Research and an Associate Professor in the Department of Emergency Medicine at the University of Colorado Anschutz Medical Campus. His research centers on preventing suicide and posttraumatic stress disorder (PTSD), particularly among military service members, civilian first responders, and individuals who have sustained acute physical injuries. He is consistently funded by the DOD and multiple foundations dedicated to improving psychological health outcomes in service members. His work has been featured by numerous media outlets, including The New York Times, Forbes, Bloomberg News, and The Today Show. Recognized as a leader in the field, he serves on the Editorial Boards of Psychological Services; Psychological Trauma: Theory, Research, Practice, and Policy; and Behaviour Research and Therapy. He is also on the Scientific Advisory Committee for Face the Fight, a coalition of corporations, foundations, nonprofit and veteran-focused organizations dedicated to veteran suicide prevention.

Attendee Directory

Leaders and other guests at the 2025 ELITE Research Symposium can learn about each other using the online directory. A password is provided to invited participants.

To learn about future events, [complete the interest form in the FAQs.](#)



DAY 1

03 APRIL 2025

08:00 - 09:00

Color Guard Presentation and CU Anschutz Leaders Welcome

Warm-up activity and program guidance: Anne Libby, PhD, Scientist Development Lead and Anne Ritter, PhD, Associate Director, CU Center for COMBAT Research

09:00 - 12:00

Innovation and Leadership Today for Tomorrow's Wars - Insights from Operations, Medical, and Bioscience Breakthrough Leaders

BG Joseph Ewers, MBA, Deputy Commander, 7th Infantry Division

Brig Gen John Andrus, MD, Joint Staff Surgeon

CAPT Franca Jones, PhD, Commander, Naval Medical Research Command

Moderator: COL Manuel Menendez, PA-C, Command Surgeon, Special Operations Command North

Facilitators: Anne Libby, PhD, CU Center for COMBAT Research

Anne Ritter, DrPH, CU Center for COMBAT Research

Awards: CU Center for COMBAT Research INSPIRED and IMPACT Awards

INSPIRED Award: *For thought leadership and innovative contributions to the CU Center for COMBAT Research mission to “save and improve lives on the battlefield and at home.”*

Presenter: Col Vik Bebarta, MD, Director, CU Center for COMBAT Research

IMPACT Award: *For contributions to high impact research that improves medical capabilities, saves and improves warfighter lives and supports force readiness.*

Presenter: Brig Gen (Ret) Kathleen Flarity, PhD, DNP, Deputy Director, CU Center for COMBAT Research

12:00 - 13:00

Lunch



13:00 - 14:30

Advancing Solutions for Critical Injury and Illness in Large Scale Combat Operations

COL (Ret) Kevin Chung, MD, Chief Medical Officer, SeaStar Medical
Adit Ginde, MD, MPH, Vice Chair for Research, CU Anschutz Department of Emergency Medicine

Moderator: COL (Ret) Stu Tyner, PhD, Smith+Nephew

Facilitators: Jonathan Boyd, PhD, CU Center for COMBAT Research

Anne Ritter, DrPH, CU Center for COMBAT Research

14:30 - 16:30

The Importance of Military-Civilian Partnerships in Preparing for the Future Fight

Ellen Embrey, Chair, MTEC Board of Directors; Founding Partner & CEO, Stratitia, Inc.

Col Joseph Catalino Jr, PhD, Reserve Deputy Command Surgeon, U.S. Transportation Command

Moderator: Col Michael Higgins, MD, Command Surgeon, U.S. Northern Command

Facilitators: Elise Huszar, MBA, The Geneva Foundation

Anne Libby, PhD, CU Center for COMBAT Research

17:00 - 19:00

ELITE Symposium Reception

Sponsored by Octapharma

Welcome: Vijayan Nair, PharmD and Octapharma colleagues



DAY 2

04 APRIL 2025

08:00 - 09:30

Fostering an innovation ecosystem to multiply medical capabilities

Richard Zane, MD, Professor and Chief Innovation Officer, UCHHealth System

Kim Muller, Esq, Vice Chancellor Innovation and Biotechnology, CU Anschutz

Lt Col Adam Willis, MD, PhD, Program Director, DARPA Biological Technologies Office

Moderator: Vijayan Nair, PharmD, Octapharma

Facilitators: Mitch Cohen, MD, Department of Surgery, CU Anschutz School of Medicine

Anne Libby, PhD, CU Center for COMBAT Research

09:30 - 11:00

Biomedical informatics harnesses complex data with cutting-edge methods

Bob Schena, President and CEO, Rajant Health

Tell Bennet, MD, Vice Chair of Clinical Informatics, CU Department of Biomedical Informatics

Moderator: Kyle Harrison, ALTEN Technology

Facilitators: Adam Willis, MD, DARPA

Anne Ritter, DrPH, CU Center for COMBAT Research

11:00 - 12:00

Digital solutions to deliver psychological health care at the point of need

Matt Mishkind, PhD, Deputy Director, Helen and Arthur Johnson Depression Center

Ian Stanley, PhD, Associate Professor, CU Anschutz Department of Emergency Medicine

Moderator: Lt Col Christopher Button, Dept. of the Air Force Suicide Prevention Program

Facilitators: Noor Obaidi, MD, PhD, The Metis Foundation

Anne Libby, PhD, CU Center for COMBAT Research



12:00 - 12:30

Data Blitz

Moderator: Dennis Lyons, Smith+Nephew

12:30 - 14:00

Lunch and Poster Session

14:00 - 15:30

Optimizing resuscitation to improve survivability in resource constrained environments

LTC Steve Schauer, MD, Fellow, CU Anschutz Anesthesia Critical Care Medicine

Abhishek Ramkumar, PhD, CEO & Founder, Abram Scientific

Moderator: Joshua Lampe, PhD, ZOLL

Facilitators: Todd Getz, PhD, CU Center for COMBAT Research

Anne Ritter, DrPH, CU Center for COMBAT Research

15:30 - 17:00

Addressing capability gaps in prehospital, prolonged, and enroute care

COL Jennifer Gurney, MD, Chief, Joint Trauma System

Nee-Kofi Mould-Millman, MD, Professor, CU Anschutz Department of Emergency Medicine

Moderator: LCDR Ian Eisenhauer, MD, Naval Medical Center Portsmouth

Facilitators: Maj Tyler Davis, MD, 59th Medical Wing

Anne Ritter, DrPH, CU Center for COMBAT Research

17:00

Next Steps and Dismissal

KEYNOTE SPEAKERS IN ORDER OF APPEARANCE



Brigadier General Joseph Ewers, MBA, MA

Deputy Commanding General (Support), 7th Infantry Division

BG Ewers has 30+ years of Army service and holds an MBA from Harvard and an MA from the Naval War College. Currently, he directs and oversees logistical operations for 14,000+ personnel, aligning organizational objectives with the Army's vision and the national defense strategy. His next assignment is at the Pentagon.



Brigadier General John Andrus, MD

Joint Staff Surgeon

Brig Gen (Dr.) Andrus serves as the senior medical advisor to the Chairman of the Joint Chiefs of Staff. He oversees global military health services, focusing on operational medicine and force readiness. Brig Gen Andrus has extensive leadership experience at multiple levels of command, and as chief flight surgeon in the execution of countless airlift missions.



Captain Franca R. Jones, PhD

Commander, Naval Medical Research Command

CAPT (Dr.) Jones (microbiology and immunology) is a Navy Medical Service Corps officer and expert in biodefense and global health security. She led DoD medical responses during infectious disease incidents, and oversaw a \$60M global infectious disease surveillance portfolio. CAPT Jones has served in leadership roles at the Pentagon, the White House, and the Defense Health Agency.



Kevin Chung, MD

Chief Medical Officer, SeaStar Medical

As CMO, COL (Ret) Dr. Chung oversees strategy, direction, and execution of SeaStar's clinical development. He is an international expert in multi-organ support and extracorporeal therapies. He previously served as professor and Chair of the Department of Medicine, and professor of Surgery, at the Uniformed Services University of the Health Sciences (USUHS).



Adit Ginde, MD, MPH

Professor and Vice Chair for Research, CU Department of Emergency Medicine

Dr. Ginde is an emergency medicine physician-investigator and international expert clinical trialist specializing in acute care research, with research leadership in sepsis, acute respiratory failure, and COVID-19. He has led numerous large multicenter clinical trials and serves in global leadership roles for major clinical trials networks.



Ellen Embrey

Founding Partner and Chief Executive Officer, Stratitia, Inc.

Chair, MTEC Board of Directors

Ms. Embrey is the Founding Partner and Chief Executive Officer of Stratitia, Inc., a consulting firm focused on developing meaningful and innovative strategies and delivering supporting tools and partnerships to bring them successfully to life. Prior to leaving federal service, Ms. Embrey served as Assistant Secretary of Defense for Health Affairs.



Colonel Joseph Catalino Jr, PhD

Reserve Deputy Command Surgeon, U.S. Transportation Command

Currently on active duty at U.S. Northern Command, Col Catalino leads a joint team supporting the DOD's global inter-theater patient movement and the Integrated Continental U.S. Medical Operations Plan. His experience includes multiple commands and flight-medic. Col Catalino has worked as a DOD civilian, and now as COO at a technology firm.



Kim Muller, Esq., MA

*Vice Chancellor Innovation and Biotechnology, CU Anschutz
Executive Director, CU Innovations*

Ms. Muller leads business development, large-scale industry-academic collaborations, and manages multiple academic, hospital system, and early-stage venture funds of more than \$250 million. At Yale, she started more than 70 new ventures and raised more than \$5 billion in investor capital.



Richard Zane, MD

Chief Medical Officer and Chief Innovation Officer, UCHealth System

Dr. Zane is an emergency physician and expert in health system design and digital health innovation. He created the UCHealth Virtual Health Program and is incoming UCHealth System Chief Medical Officer. As co-founder of the CARE Innovation Center, Dr. Zane partners with companies to harness data science, remote monitoring, and prescriptive intelligence to improve health care delivery.



Lieutenant Colonel Adam Willis, MD, PhD

Program Manager, Biological Technologies Office, DARPA

Lt. Col. Willis is a program manager in DARPA's Biological Technologies Office. Prior, he served as the Medical Director of Joint Integrated Clinical Medicine within the Office of the Chief Scientist, 59th Medical Wing. He practiced clinically as a staff neurologist and neurointensivist at Brooke Army Medical Center.



Bob Schena

Chief Executive Officer and Co-Founder, Rajant Corporation and Rajant Health

Mr. Schena is a disruptive innovator in network technology. In 2001, he co-founded Rajant Corporation, the pioneer of Kinetic Mesh Networks. Rajant Kinetic Mesh enables real-time tele-operations for multiple industries, such as defense, mining, energy, and healthcare, in over 75 countries.



Tell Bennet, MD, MS

*Professor and Vice Chair of Clinical Informatics, CU Department of Biomedical Informatics
University of Colorado Center for Health Artificial Intelligence*

Dr. Bennett is a pediatric intensivist and informaticist/data scientist. He is a leader in informatics and data science, focusing on real-time clinical decision support for high-risk settings. His work advances computational models that help transform vast healthcare data into actionable insights.



Matt Mishkind, PhD

*Deputy Director, Helen and Arthur Johnson Depression Center
Executive Director of Operations, Steven A. Cohen Military Family Clinic*

Dr. Mishkind is a behavioral health expert specializing in telehealth and military health care. He helped develop technology-based behavioral health initiatives for the U.S. Department of Defense, focusing on telehealth for remote populations.



Ian Stanley, PhD

*Associate Professor, CU Department of Emergency Medicine
Psychological Health Lead, CU Center for COMBAT Research*

Dr. Stanley is a licensed clinical psychologist specializing in suicide and PTSD prevention, particularly for service members, first responders, and injury survivors. His work focuses on reducing firearm-related injury risks, supported by funding from the U.S. Department of Defense and other agencies.



Lieutenant Colonel Steve Schauer, DO, MS

*Anesthesia Critical Care Medicine Fellow, CU School of Medicine, Anschutz Medical Campus
Senior Fellow, CU Center for COMBAT Research*

LTC (Dr.) Schauer is an emergency medicine and critical care physician with the U.S. Army and currently a fellow in anesthesia critical care at the University of Colorado. He specializes in trauma, resuscitation, and optimizing Role 1 care. Faculty at USUHS and CU School of Medicine, Dr. Schauer has multiple combat deployments and a research focus on advancing airway management and shock care.



Abhishek Ramkumar, PhD

Chief Executive Officer & Founder, Abram Scientific

Dr. Ramkumar founded Abram Scientific, Inc. to deliver precision blood coagulation management with CoagCare, the world's first rapid POC diagnostic platform capable of performing the entire spectrum of coagulation tests. He has over 20 years experience inventing and developing medical diagnostic and surgical devices, and is the inventor of the CoagCare technology.



Colonel Jennifer Gurney, MD

Chief, Joint Trauma System (JTS), Defense Health Agency

COL (Dr.) Gurney is a leading expert in trauma care, dedicating her career to improving combat casualty care. She led JTS trauma system development, chaired trauma committees, and improved surgical practices globally. A veteran with seven deployments, including service as Theater Trauma Director in Operation Inherent Resolve, Dr. Gurney spearheaded advancements in whole blood utilization in combat trauma.



Nee-Kofi Mould-Millman, MD, PhD

Professor, CU Department of Emergency Medicine

Dr. Mould-Millman is an emergency medicine physician, dually fellowship trained in EMS and Global Health, and PhD in health services research, with research expertise in trauma and prehospital care systems in resource-limited settings. He leads the Cape-Colorado-Combat (C3) Global Trauma Research Network, collaborating with South African institutions to improve early trauma care and outcomes.

MEET THE 2025 ELITE RESEARCH SYMPOSIUM SPONSORS

The CU Center for COMBAT Research is proud to introduce our sponsors for the 2025 ELITE Research Symposium.

ELITE participants will have opportunities to connect with leaders from sponsoring organizations, learn about their innovations, and explore collaborative opportunities.

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THE BURDEN OF ACQUIRED FIBRINOGEN DEFICIENCY

When a patient is hemorrhaging on the operating table, replenishing clotting factors like fibrinogen is vital to patient survival. Clinical evidence has demonstrated that fibrinogen is the first clotting factor to critically deplete during a major bleed, resulting in **acquired fibrinogen deficiency (AFD)**—underscoring the importance of early fibrinogen replacement.²⁻⁴

THE IMPACT OF AFD ACROSS DIFFERENT CONDITIONS:



In **cardiac surgery**, low fibrinogen levels are linked to an increased risk of perioperative bleeding.⁵



In **postpartum hemorrhage**, low fibrinogen levels are linked to high maternal, fetal, and neonatal mortality rates.⁶



In **trauma surgery**, low fibrinogen levels are linked to a ~5x higher mortality rate in severely injured patients.⁷

LIMITATIONS OF CURRENT STANDARD OF CARE

Cryoprecipitate (cryo) is the current standard of care for acquired fibrinogen deficiency (AFD) in the United States.⁸ Despite its widespread use, the very nature of how cryo is manufactured and stored can result in limitations with its use⁹:



On average, it can take **15 to 30 minutes for cryo to thaw**, and additional time for its delivery to point of care.^{10,11}



The extremely short shelf life leads to **high cryo wastage rates**.¹⁵



The concentration of fibrinogen (and other clotting factors) varies across cryo units, **complicating dosing accuracy**.^{9,12,13}



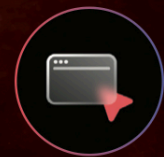
Adverse events associated with cryo include: viral transmission, allergic reactions, transfusion-related acute lung injury (TRALI), and volume overload.^{9,14}

CLINICAL GUIDELINE RECOMMENDATIONS ARE CHANGING

These limitations of cryo have led European countries and Canada to stop the practice of administering cryo to replace low fibrinogen levels, and instead recommend fibrinogen concentrate (FC).^{9,16,17}

The American Society of Anesthesiologists Guidelines recommend fibrinogen concentrate as an option in patients with excessive bleeding.⁸

**WHEN TIME IS OF THE ESSENCE,
CONSIDER A FIBRINOGEN CONCENTRATE FOR
EARLY FIBRINOGEN REPLACEMENT IN PATIENTS
WITH UNCONTROLLED BLEEDING.^{8,18,19}**



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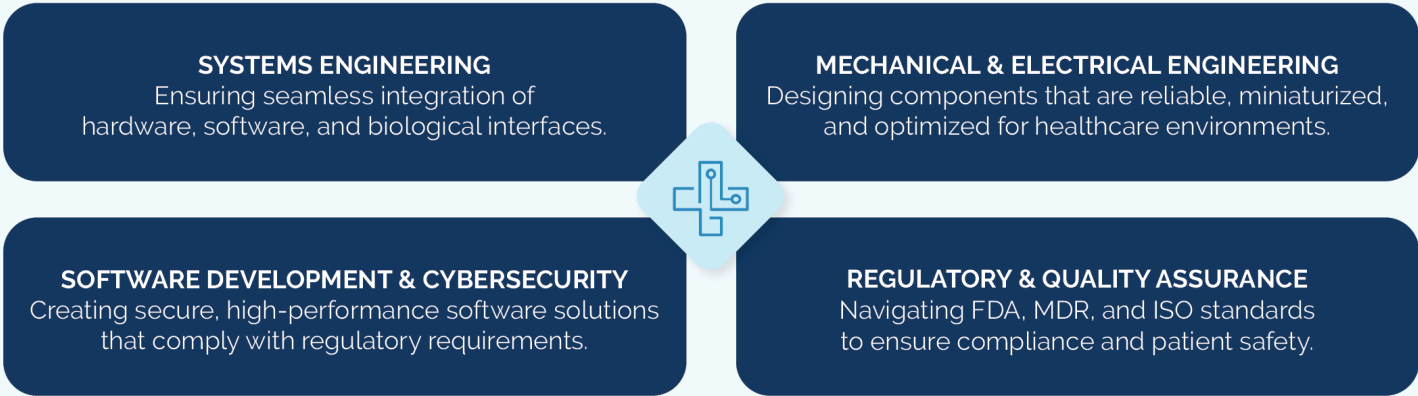
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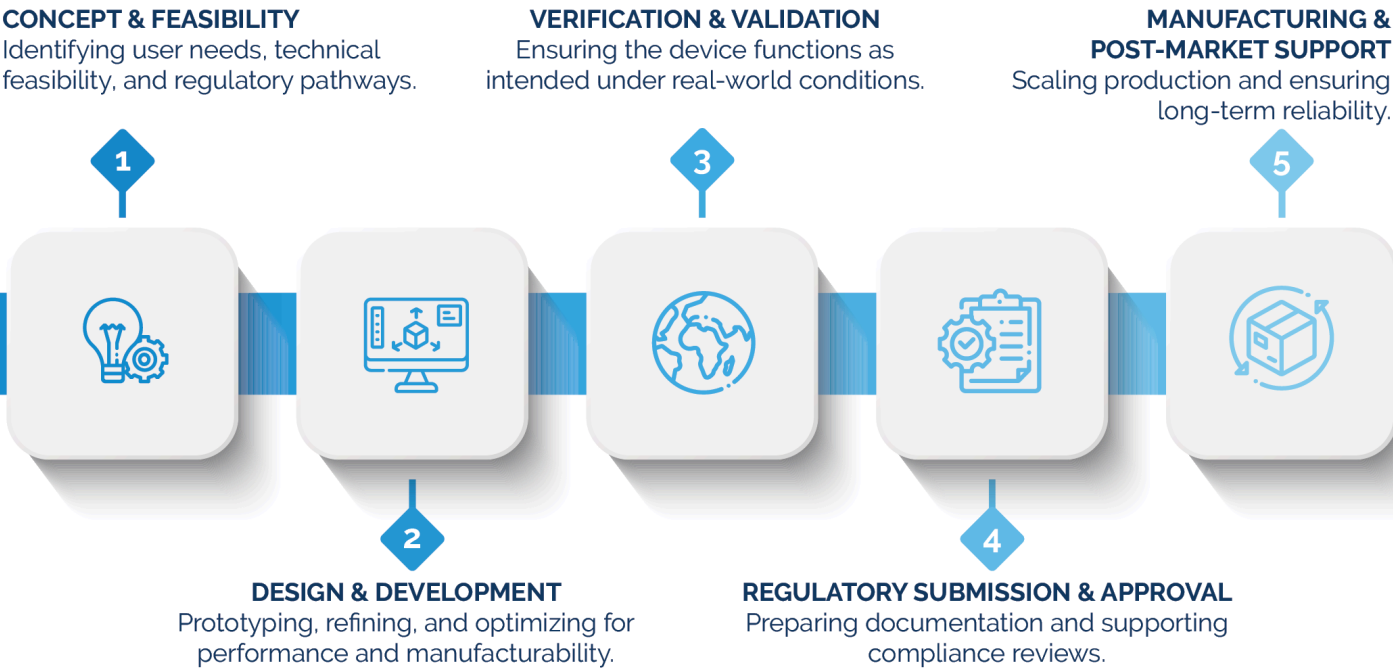
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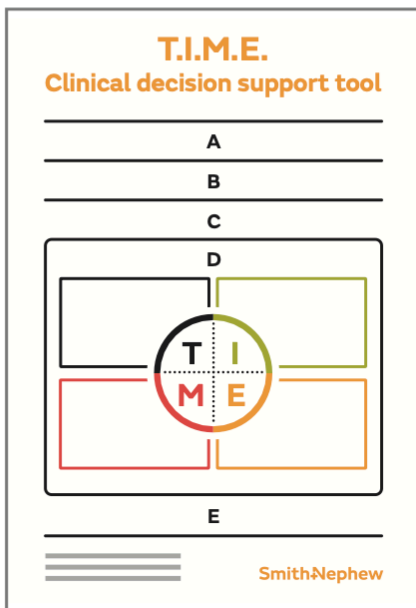
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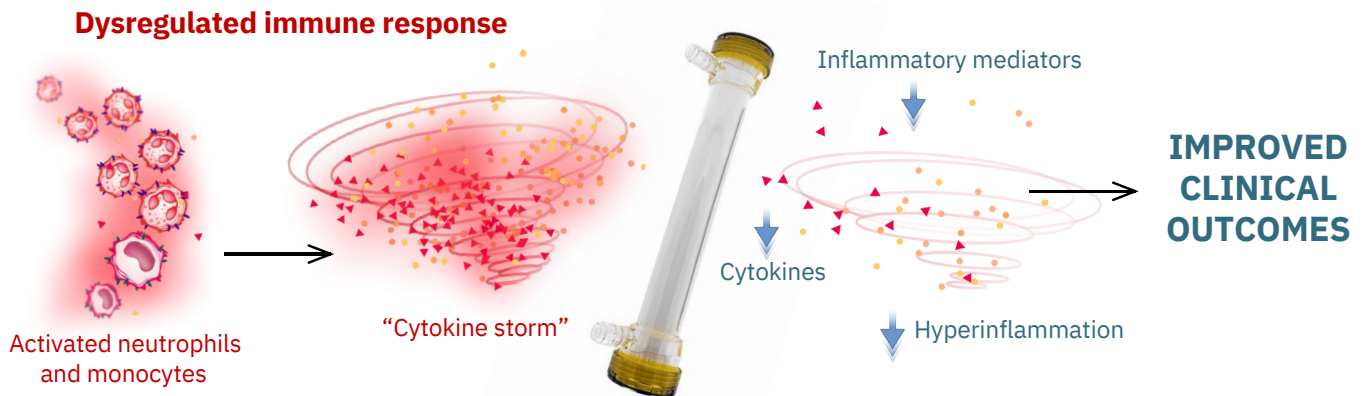
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