



Research Today



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Teaming with Small Business to Improve Technology, Save Lives on Battlefield

Author: 59th Medical Wing Chief Scientist's Office, Science & Technology

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JOINT BASE SAN ANTONIO-LACKLAND, Texas – In the not-so-distant future, a U.S. medic may encounter an injured warfighter on a remote battlefield. Instead of drawing a liquid painkiller from a vial using a needle and syringe, they will pull a mini-autoinjector from their bag, activate, and immediately administer to their patient. The medic will be able to ease the warfighter's pain in seconds instead of agonizing minutes.

This vision for the future became more achievable with Air Force Research Laboratory's (AFRL) award of two contracts on behalf of the Air Force Medical Readiness Agency (AFMRA).

The contracts, awarded to a medical device innovator, will allow the small business to adapt their auto-injector technology for military applications. The auto-injectors are designed to deliver life-saving medications like epinephrine in a small, key-fob sized unit. With modification, they can be used to administer medications required on a battlefield such as ketamine, hydromorphone, or tranexamic acid. U.S. Food and Drug Administration (FDA) approval is required for military applications of this auto-injector, and these contracts serve as a critical step in fielding a safe and effective product for saving lives.

The 59th Medical Wing's Chief Scientist's Office (Science & Technology-S&T), Air Force Special Operations Command (AFSOC), and AFMRA teamed up to advocate for the military use of this disruptive, life-saving technology.

Beginning with the military's use of small disposable syrettes of morphine to treat wounded soldiers' pain on the battlefield, the military has sought better and safer means to provide care in austere conditions. One solution was an autoinjector that would enable medics to quickly provide predetermined doses of pain medication to wounded warfighters, usually under enemy fire and in austere locations.

The use of brand names and/or any mention or listing of specific commercial products or services herein is solely for educational purposes and does not imply endorsement by the Department of Defense.

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However, these autoinjectors were too big and bulky to carry downrange, and often resulted in accidental injections to medics. Then, the 59th MDW was approached by a medical device innovator interested in co-developing their mini-autoinjectors.

“We saw a commercial technology that had the potential to save warfighters’ lives on the battlefield, and dedicated ourselves to find out, and then make it happen,” said Dr. Shelia Savell, 59th Medical Wing nurse scientist.

The S&T team consulted with AFSOC’s Medical Modernization Division, who was interested in adapting the autoinjectors for their medics, and then worked with the medical device innovator to submit a proposal package to AFWERX’s Small Business Innovation Research (SBIR) program.

After a series of successful development projects, the technology was ready for “advanced development,” funded by the award of two more contracts. This stage involves final design, manufacturing, engaging the FDA, and marketing.

The S&T teams says the autoinjector yielded excellent test results with an extended drug shelf-life and effective delivery of critical battlefield medications. They believe the technology is positioned to impact both military and civilian healthcare significantly.

“We are appreciative of AFWERX and other SBIR programs,” said Dr. Scott Walter, S&T’s Director of Technology Transfer. “They enable the military to identify, evaluate, and co-develop mission-essential medical products with small businesses that spin in new ideas and technologies and enhance our military medical capabilities.”

Note: The small business medical device innovator referenced in the article, Rx Bandz, LLC, was awarded contracts in conjunction with the Small Business Innovation Research (SBIR) program, established by U.S. Congress in 1982 to fund

Pathways to Innovation: Navigating Medical IP with the Federal Government

Monday, April 21 · 11:30am - 1pm CDT

Did you know that DoD and VA medical researchers are developing valuable intellectual property? These organizations cannot develop products on their own and depend on the private sector to commercialize their medical technologies. Join this webinar to explore the process and benefits of licensing cutting-edge medical technology from the DoD and VA to increase your organization’s profitability

Attendees will receive early access to register for SME encounters.

SPEAKERS

- Scott Walter, PhD, PE (Moderator) - Director of Technology Transfer & Transition, 59th Medical Wing/ Science & Technology
- Barry Datloff - Chief of Business Development and Commercialization, DHA/MTT
- Greg Sullivan - Licensing Consultant
- Julie Nagel - Licensing Consultant

WEBINAR LOGISTICS

Agenda:

11:30 a.m. – 12:00 p.m. CT | Networking and lunch

12:00 - 1:00 p.m. CT | Presentations and Q&A

Tickets:

Online - FREE

In-person (no lunch) - FREE

In-person (with lunch) - \$20

Location:

VelocityTX Innovation Center

1305 E. Houston St.

San Antonio, TX 78205

Free parking available at 414 N. Cherry St. and 1304 E Houston St.

Virtual access provided via Microsoft Teams:

[Click here to join the meeting](#)

Meeting ID: 220 287 285 471

Passcode: Z7Xe3oR2

AF Physician Committed to Pilot Advocacy

Athor: Tech. Sgt. Tory Patterson



Capt. (Dr.) William Hoffman

JOINT BASE SAN ANTONIO-LACKLAND – For servicemembers, the fear of seeking healthcare due to the potential of negative impact on one’s career is prevalent.

According to the Military Health System, approximately 60-70% of military personnel experiencing mental health problems do not seek mental health services, despite the benefits the care could provide.

U.S. Air Force Capt. (Dr.) William Hoffman is working relentlessly to change that. Specifically, he is researching the barriers keeping aviation personnel from seeking mental health care.

“Historically, aviators have experienced worry in seeking healthcare due to fear for what a change in health status would mean for their flying status,” explains Hoffman. “We are interested in building data-backed ways to change this paradigm to optimize both the mental health and medical readiness of our aviation personnel.”

Hoffman, a neurologist and 59th Medical Wing Joint Integrated Clinical Medicine medical director, is sharing his research on brain and mental health optimization for DoD personnel in aviation and space environments far and wide. From contributions to popular science magazine *Scientific American*, to podcasts, news media, and documentary appearances, he’s helping “sound the alarm” on an issue impacting both civilian and military aviation personnel.

In 2023, the Federal Aviation Administration chartered the Mental Health & Aviation Medical Clearances Aviation Rulemaking Committee or “Mental Health ARC.” Hoffman served as a DoD representative on the ARC, along with other experts in aerospace, psychiatric, and psychological medicine and members of the transportation industry, academia, and pilot and air traffic controller organizations. Their findings were published in an FAA April 2024 report.

The report, which can be read on the FAA website, outlines factors that may prevent individuals holding FAA medical certificates or clearances from reporting mental health issues. The committee identified that factors like culture, trust, fear, stigma, financial concerns, existing processes, and knowledge gaps can all create barriers to seeking mental health treatment.

Additionally, the report provides 24 recommendations that Hoffman describes as “sweeping changes to current mental health policies, including dropping the need for pilots and controllers to inform the FAA when they see a therapist and easing the pathway to medication use for aviation workers.”

“The discourse about mental health in aviation is quickly evolving from ‘is it the right thing to do’ (which it is!) to discussions about its role in safety and medical readiness,” explained Hoffman. “How do we optimize the mental health and wellness of aviation personnel with a focus on medical readiness?”

According to data gathered by Hoffman and his colleagues, a study of 5,170 pilots across the U.S. and Canada showed that 56% reported a history of health care avoidance based on fear of losing their flying status.

The FAA continues to review the committee’s recommendations and in April added three medications commonly used to treat anxiety and depression to its list of potentially allowable antidepressants.

With experience and rigorous research, Hoffman continues to share the narrative of mental health being a shared responsibility.

“We can all promote mental health in our Air Force through spreading accurate information; for example, you can be an Air Force pilot or other rated job and seek mental healthcare,” he explained. “We can also talk openly about mental health and be a listening and available ear for others.”

According to Hoffman, he views his and his colleagues’ research and data generation as a “small piece of the large pie” that can guide decisions ranging from individual patient care to developing health policies that will meet patients’ needs.

“It is a privilege to be one voice among many discussing the opportunities ahead to optimize the mental health and wellness of aviation personnel in our Air Force and beyond.”

ACADEMIA INDUSTRY MILITARY HEALTH R&D SUMMIT



JUNE 16-17, 2025
SAN ANTONIO

HENRY B. GONZALEZ
CONVENTION CENTER

FROM THE BENCH TO THE BATTLEFIELD.

Join us this June for the AIM Health R&D Summit, a collaborative event that will unite academia, industry, and the military to accelerate the research, development, and commercialization of transformative medical technologies, with a focus on advancing the military medical mission and dual-use applications.

By connecting top innovators across sectors, AIM creates pathways to discovery and commercialization while addressing common critical challenges in military and civilian healthcare, encouraging the cross-pollination of ideas and expertise to drive forward the next generation of breakthroughs.

The collaboration between researchers, innovators, and military leaders serves as a catalyst for medical advancements that not only enhance military readiness but also have the potential to improve healthcare outcomes on a global scale.



REGISTER TODAY

Scan this QR code to learn more and secure your seat!



The Magic inside your IRB Approval Documents

Author: Dr. Sandra M. Escolas

You've completed the arduous journey of submitting your protocol, informed consent, HIPAA Authorizations, CITI Certifications, COIs, CVs, data collection tools, Excel spreadsheets, recruitment materials, advertisement documents and more to the IRB. After a series of stipulations and corrections, the much-anticipated day arrives—you receive your IRB approval letter. Cue the celebration!

What's Next?

The first things that should be checked is if the letter you received addressed correctly to you. This means check the name – is that you, are your name spelt correctly, are the degrees, if listed, correct and if you have a military rank and branch, is it listed correctly? Next, check the Project Title. Is it correct and are the words all spelt correctly. If any of this info is incorrect, reach out to the IRB office and ask for corrections. We're all human, and sometimes there are mistakes.

Checking the submission type and review type (e.g., “convened IRB”, “expedited”, etc.) is important to make sure that's what you think it is. However, the action should catch your eye. It should read ‘approved’ or potentially ‘stipulations met’ or something similar if your protocol was approved with stipulations previously. Under that is IRB Approval Date. This is the official date that the IRB approved the protocol; be aware that this date may not be the same as the date the IRB Approval letter was drafted, and that's OK. If there is an expiration date under the approval date, this means your protocol is in a category that requires annual continuing reviews to maintain IRB approval. Note: This should match the continuing review requirement in paragraph 5. If you get to paragraph 5 and it states that you're not required to submit a continuing review, but you have an expiration date, reach out to the IRB to confirm which is correct.

Now that you have your IRB approval document, your first task is to read it thoroughly. Each IRB approval letter contains similar types of information, though the order might vary. For this article, we'll reference the SA IRB Approval Letter order. The SA IRB approval letter that we are discussing has ten numbered paragraphs. (Note: there are versions that have more paragraphs so be flexible.)

Each paragraph has information that the investigator needs to know. Briefly, very briefly, each paragraph is summarized.

Paragraph #1 notes the IRB approval and the risk determination for your study. Greater than minimal risk will always have a continuing review and expiration date.

Paragraph #2 explains what was approved, protocol version, number of participants, the consent version and the HIPAA version and the requirements for use for the approved consent and HIPAA versions. These version numbers are important! First, make sure they match the version you remember submitting. And these are the versions that you must use when initiating your protocol and enrolling participants. If a consent and/or HIPAA Waiver was requested and approved – this is where you will see the information.

Paragraph #3 discusses the potential funding requirements, and the attached upper-level reviews. For 59th MDW personnel, don't forget the requirement for an institutional authorization although it is not listed in the approval document.

Paragraph #4 explains unanticipated problems involving risks to subjects or others (UPIRTSO) reporting requirements, 3 days from when you learned about it, not when it occurred.

Paragraph #5 the requirements for continuing reviews or institutional updates. If you have a continuing review required, make sure there is an expiration date at the top of the letter. Some studies may only require an annual “institutional update”.

Paragraph #6 the maintenance of records, WHASC has a PI binder template for paper records. Records must be maintained as you state in your protocol. Must keep consent docs 3 years post-study, and HIPAA forms 6 years.

Paragraph #7 protocol changes require approval, i.e., must submit amendments. This includes people, equipment, and procedures.

Paragraph #8 let the IRB know if your project is complete, i.e., final report. Also, if the PI PCS', he/she must inform the IRB and HRPP protocol office and submit an amendment for change of PI.

Paragraph #9 discusses the publication policy. Pubs/presentations must be cleared for public release.

Paragraph #10 the POC for your IRB approval.

After the signature block of the POC, the documents that were received as part of the protocol submission are listed. Your recollection of what was submitted should align with the IRB's record. Verify that this list matches what you believe was submitted for review. If there are any discrepancies, contact the IRB or Protocol Support Office for resolution.

If errors are found on the approval document, promptly return the document to the IRB or protocol support office for correction. Remember, research is a collaborative effort. Everyone has a role in ensuring the protection of human subjects and the integrity, validity, and reliability of the research. Ensure that all documents approved on the approval letter, along with the approval letter itself, are added to your PI binder.

You are now ready to embark on your research journey! Good luck and enjoy!

Recent Review Article Leverages Military Experience Managing Bone Stress Injuries

Author: LtCol Steven D. Trigg



A recent review article published in the premier family medicine journal highlights the expertise of 59th Medical Wing assets managing bone stress injuries, one of the most critical enemies for our warfighters. Up to 10% of military trainees and numerous warfighters are compromised by a bone stress injury (commonly referred to as a stress fracture)¹, costing the DoD up to \$100 million annually². This review provides a comprehensive overview of the current literature on the topic combined with the knowledge gained from experience managing the most common medical condition in Air Force Basic Military Training. The article highlights the importance of effective medical management of these injuries, which can have a significant impact on the health and readiness of military personnel.

The article describes some recent paradigm shifts in the management of bone stress injuries. One is the lack of specificity of bone marrow edema on MRI. The article cites numerous recent studies describing bone marrow edema, which previously would have been called a bone stress injury, that never becomes symptomatic despite increasing load. The authors hypothesize that bone marrow edema, when it does not correlate with pain and tenderness, can be a sign of normal adaptation to increasing load. The article also highlights the importance of individualized plans for patients recovering from a bone stress injury. Rather than prescribing the same protracted rest period for every patient, return to sport progression should be tailored to the individual and what they can tolerate.

With bone stress injuries accounting for a substantial proportion of trainee attrition and lost duty days, the economic burden on the military is substantial. By centralizing the current knowledge on bone stress injuries, including the above challenges to conventional wisdom, this review article provides a valuable resource for military medical professionals, researchers, and policymakers. It calls for evidence-based prevention and treatment strategies, as well as further research where needed. As such, this article can be used as a resource to inform providers and improve the management of bone stress injuries in the military, ultimately reducing their impact on military readiness.

¹Waterman BR, Gun B, Bader JO, et al. Epidemiology of lower extremity stress fractures in the United States military. *Mil Med.* 2016; 181(10): 1308-1313.

²https://cdmrp.health.mil/search.aspx?LOG_NO=OR180189#:~:text=Stress%20fractures%20cost%20the%20military,and%20helps%20build%20bone%20mass.

Calendar Events San Antonio, Texas

- ▶ BioMedSA Strategic Event, 22 Apr 25, Bob Hope Theater
- ▶ CAMD Scientific Presentation is the last Thursday of every month; contact Dr. Asin with questions/invitation
- ▶ AIM Health R&D Summit July 16-17 2025, Henry M. Gonzalez Convention Center
- ▶ Connect with VelocityTX - April 3 1600-1800 | Network with leaders from across San Antonio's bioscience community and enjoy an engaging presentation by Lt. Gen. Robert Miller, Director of the UT Health San Antonio Military Health Institute. <https://www.eventbrite.com/e/connect-with-velocitytx-registration-1248637802279?aff=oddtcreator>



Research Roundtable: A series of connection meetings for researchers to explore opportunities and collaboration. Our next topic is **Brain Health** and is scheduled for **May 15th @ 3 pm**. Link to register is below.



BioSalsa is a podcast series designed to showcase the outstanding work within the healthcare and bioscience industry in San Antonio. Just like a rich, delicious salsa, this podcast will be a vibrant mix of research advancements and innovation in The City of Science and Health.TM

We invite you to contribute to BioSalsa

- Email your interest to info@biomedsa.org.
- Receive the podcast envelope (includes opening and closing sections).
- Record up to 20 minutes of your content (podcast equipment available).
- Insert your content into the envelope and send it back.
- Send us the title, speaker(s), and headshot(s).
- We will publish your podcast.



Audio File Due Dates

January 15th	Cancer
April 1st	Infectious Disease
July 1st	Brain Health
October 1st	Wound Care/Trauma

For more information, podcast instructions and a list of distribution channels, contact info@biomedsa.org



<https://biomedsa.org/event/research-roundtable-brain-health/>

BioSalsa Podcast: A podcast series designed to showcase the excellent biomedical work in San Antonio.

Please reach out to info@biomedsa.org. If you have interest, we are happy to help with details. Submission topics and due dates below.

Infectious disease research submission are open until **April 1st**.

Brain Health submission are open until **July 1st**

Research Roundtable

A series of research connection meetings throughout the year to provide a platform for researchers to explore opportunities for collaboration and bring funding to San Antonio.

Next topic: Brain Health Research

Date: May 15th
 Time: 3:00-4:30
 Location: 2040 Babcock Road, Suite 100

Putting the “T” in Science, Technology, Engineering, and Math (STEM) Outreach

Author: 59th Medical Wing Chief Scientist’s Office, Science & Technology



On January 27th, 2025, Dr. Scott Walter, a distinguished member from the 59th Medical Wing’s Office of the Chief Scientist, had the opportunity to engage with students from the University of Texas Health San Antonio’s Graduate School of Biomedical Sciences. During this insightful session, Dr. Walter shared a wealth of knowledge on a broad spectrum of technology development concepts.

He emphasized the critical importance of securing intellectual property (IP) as a foundational step to create and maintain value in medical and technological innovations. Dr. Walter also provided in-depth insights into optimizing technology transfer processes, ensuring that valuable innovations effectively move from the laboratory to practical, real-world applications.

Furthermore, he delved into the unique approach the military takes in conducting medical product development, offering the students a glimpse into the rigorous processes

and standards that are maintained to ensure efficacy and safety. Dr. Walter highlighted the best practices for transitioning research into development, focusing on the commercialization and fielding of medical products. This transition is vital to transforming groundbreaking research into tangible solutions that can improve health outcomes and save lives.

Dr. Scott Walter underscored the significant advantages of employing agile project management methodologies in the development of new technologies. He emphasized that this approach is instrumental in keeping end users actively involved throughout the development process. By maintaining continuous engagement with the end users, the final products are more likely to meet their needs and expectations, resulting in more effective and user-friendly solutions.

Dr. Walter also pointed out the collective responsibility shared by everyone involved in product development, from developers to end users, in leveraging funding from all available sources. He highlighted the fact that government funding might only cover the research and development (R&D) costs, making it essential to seek additional funding opportunities to ensure the successful development and commercialization of products. To illustrate this point, he cited that the average cost to develop a FDA class II medical device, from the initial idea to market sales, is approximately \$30 million.

Moreover, Dr. Walter announced the upcoming San Antonio AIM Health R&D Summit, scheduled to take place on June 16-17, 2025, at the Henry B. Gonzalez Convention Center. This highly anticipated event will bring together representatives from academia, industry, and the military, fostering cross-sector collaboration in the development of innovative, life-saving medical technologies. Dr. Walter noted that the summit aims to promote the exchange of ideas, share best practices, and encourage partnerships that can drive forward the field of biomedical sciences and technology development.

He urged students to consider attending and register at <https://velocitytx.org/startup-programs/funding/aim-conference/>, especially that attendance is free for students with “.edu” extensions in their email address. Dr. Amanda Ramirez, the Director of Student Success at UTHSA, expressed her appreciation following the session: “At UTHSA, we have graduate student groups dedicated to military research and career pathways, and we are all extremely grateful that Dr. Walter took the time to speak with my students. These discussions are invaluable for aspiring scientists seeking to advance military health research and improve healthcare in the broader community. Understanding funding mechanisms for military health enables students to develop scalable projects that address the needs of both service members and the communities they serve.”

Overall, the session was an enriching experience for the students, providing them with valuable knowledge and practical insights that could potentially guide their future careers in biomedical sciences and technology development.

Association of Nontechnical Skills and Cognitive Load with Technical Performance During Simulated En Route Critical Care Missions

Author: 59th Medical Wing Chief Scientist's Office, Science & Technology



One of the primary initiatives of the 59th Medical Wing (59MDW) En Route Care Research Center is to utilize multimodal assessments during realistic simulations of air transports in future operating environments. The objective of these simulations is to gain a comprehensive understanding of the training and technology requirements for en route care. By replicating the conditions that medical personnel may face during air transport missions, the center aims to identify areas for improvement and ensure that caregivers are well-prepared to provide high-quality medical care in challenging settings.

A dedicated research team, comprising members from the University of Colorado Denver, the University of Edinburgh, Mass General Brigham, and the Henry M. Jackson Foundation for the Advancement of Military Medicine, has been instrumental in this endeavor. This diverse team has brought civilian expertise from spaceflight medical simulation research to the table, integrating best practices into the field simulation and research platform at 59MDW. Their collaboration has enabled the center to enhance the realism and effectiveness of its simulations, ensuring that the insights gained are directly applicable to real-world scenarios.



Maj Tyler Davis, Director, USAF 59MDW/ST En Route

By leveraging these multimodal assessments and incorporating expertise from various prestigious institutions, the 59MDW En Route Care Research Center is at the forefront of advancing en route care. The center's efforts are crucial in developing innovative training methods and technologies that can significantly improve patient outcomes during air transport missions, ultimately contributing to the overall mission readiness and effectiveness of military medical personnel.

The research team collaborated with the 59th Medical Wing (59MDW) CCAT Pilot Unit and the Uniformed Services University of the Health Sciences (USUHS) Center for Biotechnology (4DBio3) to conduct an important data collection exercise. This exercise was part of the Validated Assessment Platform for Operational Readiness (VAPOR) program and took place in a static C130 aircraft at the Torch Site on Lackland Air Force Base.

During this Critical Care Air Transport Team (CCATT) exercise, the CCATT teams received sustainment training in a highly challenging environment. The training scenario involved transporting a significantly larger number of simulated patients than the current CCATT mission capabilities typically handle. This set-up allowed for an intense and realistic training experience that pushed the teams to their limits.

The teams utilized actual CCATT equipment, creating an authentic environment where they had to respond to real-time vital signs of the simulated patients. This realistic training scenario ensured that the teams were able to practice and refine their skills in an environment that closely mimicked real-world conditions.

By partnering with various esteemed institutions and leveraging cutting-edge simulation technology, the exercise provided valuable insights into the operational readiness of CCATT teams. The data collected during this exercise will be instrumental in improving training protocols, enhancing equipment performance, and ultimately ensuring that CCATT teams are well-prepared to provide critical care during air transport missions.

The research team gathered an extensive array of data, including video, audio, and wearable sensor information, significantly enhancing their data collection capabilities in field environments. By leveraging these diverse data sources, the research aims to gain a comprehensive understanding of team strengths and weaknesses when operating in a high patient volume environment. The ultimate goal is to identify effective tactics to improve the readiness and performance of Critical Care Air Transport Teams (CCATT) in potential future operating environments.

Evaluating Self-Retaining Retractors for Surgical Teams in Forward Deployment

Author: 59th Medical Wing Chief Scientist's Office, Science & Technology



Forward deployed surgical teams use self-retaining retractors (SRRs) to improve visibility and control during critical surgeries. This study evaluated the portability, surgical exposure, and user experience of various SRRs to determine the best characteristics for these devices.

The study meticulously compared several types of self-retaining retractors (SRRs) to assess their effectiveness and user-friendliness for forward deployed surgical teams. Specifically, the devices evaluated included the Alexis, Balfour, and Titan CSR SRRs, which were tested against the widely-used, standard operating table-mounted Bookwalter retractor. To expand the scope of the analysis, researchers also tested an alternative configuration of the Titan CSR, known as Titan CSR+, which featured four additional retractor blades to potentially enhance its performance.

In conducting this comparative analysis, the study focused on several critical metrics to ensure a thorough evaluation. These metrics included the weight and dimensions of each device, which are crucial factors for portability and ease of handling in field conditions.

Additionally, the performance of each SRR was assessed in two different settings: cadaveric models and simulated models. The cadaveric models involved applying each retractor to real human cadavers to measure the actual exposed surface area and to evaluate the ease and speed of deployment. On the other hand, the simulated models involved synthetic abdominal setups, allowing for controlled and repeatable testing of assembly and deployment times, as well as user feedback on various performance aspects.

By analyzing these key metrics, the study aimed to identify the SRR that offers the best combination of portability, ease of use, and effectiveness in providing surgical exposure, ultimately guiding the selection of the most suitable devices for forward deployed surgical teams. Ten cadavers received a standardized midline abdominal incision, with each retractor applied in a randomized sequence. The exposed surface area was measured using photogrammetry. Eighteen participants also tested the devices in a synthetic abdominal model, evaluating assembly and deployment times, exposed surface area, and user satisfaction through pre- and post-simulation surveys.

The study found that the average maximum incision length was 32 cm. Deployment times varied, with Alexis, Balfour, Titan CSR+, and Bookwalter taking 42, 35, 132, and 140 seconds respectively. Most users were familiar with all SRRs except Alexis and Titan CSR. Time to exposure was fastest for Alexis, Balfour, and Titan CSR at 80, 57, and 87 seconds, compared to Bookwalter's 211 seconds. Surveys indicated high marks for Alexis and Titan CSR in ease of assembly, Balfour in ease of deployment, Alexis for comfort, and Titan CSR+ for overall exposure and versatility. Photogrammetric analysis is ongoing.

Preliminary findings suggest that Titan CSR is easier and faster to deploy than the Bookwalter. Choosing SRRs for forward deployment should consider cost, weight, size, exposure capability, and user experience to optimize surgical outcomes for military personnel.

Investigators: Mylea A. Echazarreta Cristner, PhD1, Breanna Estrada, MHA1, Mubeen Sultana, BS1, Justin J. Sleeter, MD2, Kenneth L. Tanyi, MD2, Erik S. DeSoucy, DO3, Jared S. Folwell, MD2

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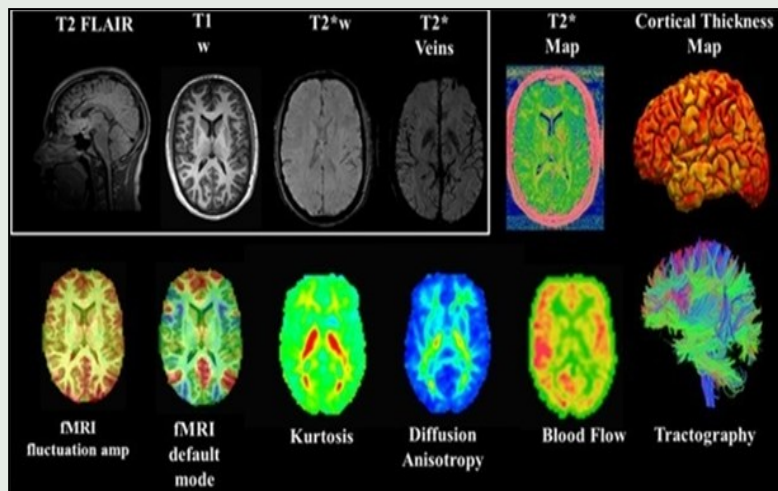
3 United States Air Force, Trauma Burn and Rehabilitative Medicine Team, Abu Dhabi, UAE

The opinions expressed on this document are solely those of the authors and do not represent an endorsement by or the views of the United States Air Force, the Department of Defense, or the United States Government.

Pictures: Frontline Medicine: The 378th Expeditionary Medical Squadron GST in Action
Photo by [Tech. Sgt. Alexander Frank](#) 378th Air Expeditionary Wing

Potential Benefits of Metformin as a Prophylactic Treatment for Traumatic Brain Injury

Author: Dr. Madeline R. Paredes



Traumatic brain injury (TBI) is a significant public health concern, often resulting from external impacts to the head, such as those sustained in battlefield conditions. While advances in medical technology have improved survival rates following TBI, there remains a critical need for early therapies and treatments to mitigate the severity of the injury and enhance recovery outcomes.

Recent advancements in traumatic brain injury (TBI) treatment have highlighted the importance of early intervention and novel therapies. A recent study investigated the potential benefits of pre-injury administration of metformin, an FDA-approved drug commonly used for managing type 2 diabetes and pre-diabetes, to enhance recovery and reduce injury severity in TBI patients.

This article explores the study's findings, on a large combat relevant model, and focuses on the implications of these findings for future research and potential clinical applications.

Metformin widely known for its use in managing type 2 diabetes and pre-diabetes, has garnered interest for its potential neuroprotective effects. The drug's ability to penetrate the blood-brain barrier (BBB) and act directly on brain tissue positions it as a promising candidate for TBI treatment. Previous research involving rodent TBI models and human clinical trials has suggested that metformin may reduce inflammation and prevent cognitive decline, making it a subject of interest for neurological conditions.

The study's objective was to evaluate the effects of pre-injury administration of metformin on various physiological, inflammatory, and neurological markers in subjects receiving metformin treatment compared to untreated controls. Researchers successfully delivered a combat-relevant model of moderate TBI, characterized by subdural hemorrhage without skull fracture. The results indicated significant differences in parameters such as blood pH, pCO₂, and ETCO₂ between metformin-treated subjects and untreated controls. Similar to data obtained from small models and clinical data after TBI, increased levels of inflammatory and neurological markers of brain cellular damage were observed at the end of the study compared to those observed at baseline.

More research is needed to determine whether metformin may offer neuroprotective benefits in the context of TBI by modulating key physiological and inflammatory markers. Further research is warranted to elucidate the specific mechanisms underlying these effects and to determine the optimal dosage and timing for metformin administration in TBI patients.

This study provides valuable pre-clinical data for the potential benefits of metformin as a prophylactic treatment for traumatic brain injury. The observed differences in physiological and inflammatory markers between treated and untreated subjects underscore the need for continued research to explore metformin's therapeutic potential fully. As the medical community seeks to improve early interventions and treatments for TBI, metformin's well-established safety profile and neuroprotective properties position it as a promising candidate for future clinical applications.

This study was conducted by:

The Clinical Resuscitation, Emergency Science, Triage & Toxicology (CRESTT), 59th Medical Wing, Science & Technology, United States Air Force, and by members of the Department of Emergency Medicine, San Antonio Military Medical Center, Department of Military and Emergency Medicine, Uniformed Services University. The study was funded by DHA RESTORAL

(Image courtesy of <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5488134/figure/Fig4/>)

Honors and Recognition

Farewell to Lt. Col. Tonya White A Legacy of Innovation and Dedication in Nursing Research

Author: 59th Medical Wing Chief Scientist's Office, Science & Technology



Lt Col. Tonya White

With both pride and sadness, we say farewell to Lt. Col. Tonya White, Director of Nursing Research and Deputy Chief Scientist for the 59th Medical Wing, Science and Technology. During her tenure at Joint Base San Antonio-Lackland, Lt. Col. White's visionary leadership and dedication to nursing research have paved the way for future advancements in medical science.

As Director, Lt. Col. White has expertly led innovative research and evidence-based practice solutions that are clinically focused and military relevant. Her initiatives have not only informed leadership but have also enhanced the care of our warfighters and beneficiaries.

Lt. Col. White's academic journey is a testament to her dedication and intellectual rigor. She obtained her Doctor of Philosophy degree from the Uniformed Services University, Daniel K. Inouye Graduate School of Nursing. Her academic pursuits did not end there, as she recently completed a prestigious TriService Nursing Research Program post-doctoral fellowship.

Lt. Col. White's contributions have been recognized with multiple major awards and decorations, including the Meritorious Service Medal with oak leaf cluster, Air Force Commendation Medal, Air Force Achievement Medal, and the Humanitarian Service Medal. Her current national certifications as a Neonatal Nurse Practitioner from the National Certification Corporation and Nurse Executive-Advanced Certification from the American Nurses Credentialing Center underscore her expertise and commitment to excellence.



Dr. Debra Niemeyer and LtCol White

During her tenure at Science and Technology, Lt Col White managed a \$502 million research portfolio encompassing 312 projects, 355 protocols, and 84 Technology Transfer Agreements. Her efforts yielded 1,200 scholarly works and garnered 61 awards. She also spearheaded a \$2 million multidisciplinary research and Evidence-Based Practice portfolio and served as the site Principal Investigator for a \$425,000 TriService Nursing Research Program resilience study. Overseeing 600 staff across six Directorates, seven labs, and 64 extramural partnerships, she drove policy and processes to address mission-critical research needs aligned with Air Force and Defense Health Agency priorities.

Additionally, she expanded membership in the TriService Expeditionary Care Research Group, leading 138 members to identify and prioritize critical gaps in prolonged field care, thereby accelerating solutions for future conflicts.

Reflecting on Lt. Col. White's remarkable career, we express our deepest gratitude for her contributions and leadership. Her legacy will continue to inspire future generations of nurses and researchers. Lt. Col. White, we wish you all the best in your future endeavors and thank you for your extraordinary service to our nation and the 59th Medical Wing.

Honors and Recognition

Welcoming Major Nina Hoskins: Leading Nursing Research and Innovation

Author: 59th Medical Wing Chief Scientist's Office, Science & Technology



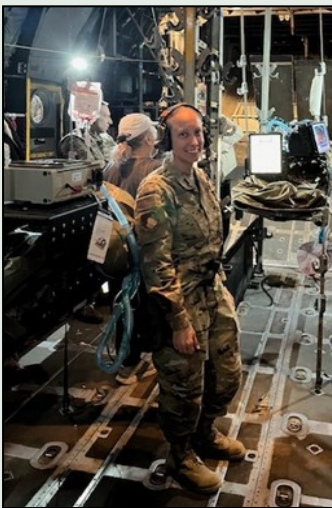
Major Nina Hoskins is the Interim Director of Nursing Research at the 59th Medical Wing, Science and Technology, Joint Base San Antonio, Lackland. She leads innovative, military-relevant research and evidence-based practice solutions to enhance warfighter and beneficiary care. Additionally, she supports the professional growth of civilian and military personnel and manages awards, evaluations, and the Comprehensive Medical Readiness Program for the department.

Major Hoskins is a dedicated Nurse Scientist, with an impressive nursing career spanning a decade. Eight years ago, she was selected for a direct commission into the Air Force as a fully qualified Operating Room (OR) Registered Nurse (RN). Throughout her military service, Major Hoskins has been stationed at Keesler AFB, Brooke Army Medical Center (BAMC), and Lackland AFB. During this time, she played a crucial role in setting up the Department of Defense's robotic surgery training platform and held various leadership positions, including service nurse manager for multiple surgical specialties, process improvement coordinator for the Department of Operative Services and Anesthesia, and Executive Officer for the 959 Medical Group.



Balancing her full-time work as an OR RN with a commitment to education, Major Hoskins completed her master's in nursing, focusing on patient safety and quality, and went on to earn a Ph.D. in nursing research and nursing education. Her passion for lifelong learning led her to pursue fellowship opportunities, and she found the Clinician Scientist Investigator Opportunity Network (CSION).

CSION is a two-year research fellowship program that is joint, corps-neutral, free of service obligation, and focused on retaining military medical personnel by demonstrating that clinical careers and research goals can coexist within the military framework. The program provides comprehensive instruction on critical aspects of the research process, such as grant writing, team building, and obtaining regulatory approval. Additionally, CSION offers personalized mentorship and leadership guidance from program staff.



As the first nurse selected as a CSION Fellow, Major Hoskins is thrilled to embark on research focusing on the preparation and readiness of novice OR RNs. This initiative involves collaboration with the Air Force Perioperative Nurse course and future partnerships with the TriServices. Major Hoskins aims to conduct research that expands knowledge in the OR, patient safety, quality, combat care, readiness, and education. By contributing to these areas, she hopes to influence DoD and DHA policies and procedures, ultimately preparing medical forces for future conflicts.

Major Hoskins' dedication to advancing nursing within the military and her pursuit of knowledge are truly commendable. As she begins this exciting chapter as a CSION Fellow, the impact of her work is sure to resonate throughout the medical community, ensuring that healthcare teams are equipped to face any challenges that may arise.

We are delighted to welcome Major Nina Hoskins to the 59th Medical Wing's Science and Technology Department as a pioneering Nurse Scientist. Her extensive experience and dedication to advancing nursing research will undoubtedly contribute to our mission and inspire future innovations in military healthcare.

Honors and Recognition

Innovator and Leader Mr. Lance JP McGinnis's Pioneering Efforts in Nursing Research and En Route Care

Author: Maj Nina Hoskin

Mr. McGinnis is an experienced Associate Investigator and Nurse Consultant within the Nursing Research directorate, recognized for his remarkable contributions to En route Care (ERC) research. Drawing on his vast experience as a clinical, operational, and Critical Care Air Transport Team (CCATT) subject matter expert, Mr. McGinnis has made significant contributions to the field by developing advanced simulation models. These models integrate Biometric Cognitive Load Measurements, enhancing the efficiency and effectiveness of En Route Care (ERC). Mr. McGinnis's dedication to research excellence extends to refining ERC study protocols, data collection, and analysis, ensuring scientifically validated assessments of both human and technological performance. His work bridges the gap between research and practical application, ultimately improving patient outcomes.



Beyond his research endeavors, Mr. McGinnis is committed to aligning nursing research and Evidence-Based Practice (EBP) projects with the priorities of the Air Force Medical Service (AFMS) and the San Antonio Market. He serves as a mentor to nurses, optimizing research efforts and fostering a culture of continuous improvement. As an Exempt Determination Official (EDO) for the 59th Medical Wing (MDW) Human Research Protection Program (HRPP), he ensures compliance with HRPP guidelines, facilitating timely determinations for human subject research.

Mr. McGinnis's contributions extend to multiple committees, including the 59 MDW Process Improvement and Patient and Family Partnership Committees, where he upholds research and process improvement standards. His clinical expertise is invaluable to Joint Austere Medicine research, further solidifying his role as a key figure in advancing medical practices in challenging environments.

In addition to his research and committee work, Mr. McGinnis is a prominent speaker for the Air Force Nursing Transition Program and a dedicated instructor for TeamSTEPPS, promoting staff awareness of EBP initiatives. His multifaceted contributions ensure that the latest research and best practices are integrated into nursing care, ultimately benefiting patients and the healthcare community.



Mr. McGinnis's relentless pursuit of excellence and his innovative approach to nursing research make him a true trailblazer in the field. His work not only advances the understanding and application of ERC but also inspires and empowers the next generation of nursing professionals. This is evidenced by his hands-on approach in training and mentoring nurses, ensuring they are well-equipped with the knowledge and skills needed to excel in their roles. His influence is felt not only within the immediate community but also on a broader scale, as he advocates for continuous improvement and the integration of the latest research findings into everyday practice.

By fostering a culture of learning and innovation, Mr. McGinnis has contributed to the advancement of nursing practices that ultimately lead to better patient outcomes. His commitment to the nursing profession is unwavering, and his work continues to have a profound impact on the healthcare landscape.

Achievements Spotlight

Honors and Recognition

Lt. Col. J. Brett Ryan earns Arthur S. Flemming Award for contributions to dental research

Author: Senior Airman Matthew-John Braman
JOINT BASE SAN ANTONIO-LACKLAND, Texas – U.S. Air Force



Lt. Col. J. Brett Ryan has been recognized with the Arthur S. Flemming Award in the Social Science, Clinical Trials, and Translational Research category, highlighting his exceptional contributions to public service, research, and innovation.

Ryan, a Dental Public Health specialist, serves as chief of dental epidemiology at the U.S. Air Force Dental Research and Consultation Service, 59th Dental Group, 59th Medical Wing. He leads tri-service strategic oral health research, provides expert consultation across all command levels, and develops innovative solutions to enhance operational dental readiness. His efforts directly contribute to \$4 million in research initiatives while mentoring more than 65 dental specialty residents.

During his tenure, Ryan led six tri-service research teams, securing direct funding and contributing to additional research initiatives. He spearheaded the development of dental readiness tools to improve oral health for service members in austere environments and completed an FDA-approved clinical trial for a novel oral health product. Beyond his research, he has been a strong advocate for education and equity, mentoring dental residents and engaging underrepresented youth in STEM fields.

Established in 1948 by George Washington University, the Arthur S. Flemming Award recognizes federal employees for outstanding contributions to public service. The award promotes excellence in federal service, encourages high-performance standards, and highlights the impact of government careers.

Ryan's leadership and dedication have elevated oral health care standards within the Department of Defense, demonstrating the real-world impact of research and innovation.

Please join us in congratulating Lt. Col. J. Brett Ryan on this well-deserved honor!

Conferences

Association of Clinical Research Professionals (ACRP) 2025. ACRP 2025, 24-27 April 2025, New Orleans, LA. ACRP 2025 is the leading clinical research conference that delivers gold-standard education and insights to boost your professional development—For more information and to register, visit <https://2025.acrpnet.org/>.

DHA/CIPO (Clinical Investigation Program Office) is hosting an Artificial Intelligence in DoD Research 101 Training Forum 10 April 2025 @ 1300 EST featuring CDR Peter Walker, Deputy Branch Chief, Science and Technology Portfolio Management and Dr. William Parker Nolen, Subject Matter Expert, Office of Research Protections who will be discussing artificial intelligence as it applies to DOD research.

The 2025 Military Health System (MHS) Conference will be held 28 April 28 – 2 May 2025, at the Huntington Convention Center in Cleveland, OH. The Military Health System (MHS) Conference is a four-day annual conference, sponsored by the Office of the Assistant Secretary of Defense for Health Affairs. For more information and register visit <https://www.mhsconference.com/>

2025 AAHRPP Annual Conference: HRPP Dedication, Dialogue, and Discovery in Denver, 20-22 May 2025, Grand Hyatt Denver, CO. For more information and to register, visit <https://www.aahrpp.org/education-news-and-events/annual-conference>.

Honors and Recognition

Clinician Scientist Investigator Opportunity Network Program (CSION) graduates 2024 class

Author: 59th Medical Wing Chief Scientist's Office, Science & Technology

JOINT BASE SAN ANTONIO-LACKLAND, Texas – The Clinician Scientist Investigator Opportunity Network (CSION) program recently celebrated the graduation of its 2024 class.

The graduating class includes *(listed alphabetically)*:

U.S. Air Force Maj. Chase Aycock (Clinical Health Psychologist)
U.S. Air Force Lt. Col. Kelvin Bush (Cardiologist)
U.S. Air Force Maj. Theodore Hart (Vascular Surgeon)
U.S. Air Force Maj. Nicholas Villalobos (Pulmonary Critical Care Physician)
U.S. Army Civilian Dr. Craig Woodworth (Psychologist)

During their participation in the CSION program, the 2024 class produced 72 peer-reviewed manuscripts, six book chapters, 88 abstracts, 36 posters, and 34 podium presentations. The graduating class submitted 28 pre-proposals for grants, with 20 being invited back for full proposals. Notably, the graduating class had 12 proposals awarded for funding. These research accomplishments occurred while balancing 864 clinic days and 280 full surgery days.

The CSION program was initiated in 2019 and shepherds promising clinicians whose work has practical applications in becoming clinician-scientists. The CSION program is unique because it is tri-service, corps-neutral, has no service obligation, and focuses on its research mission rather than degree-granting.

The pipeline a CSION fellow follows is tailored to the needs of the military mission. With no service obligation, motivated members are offered a non-financial incentive to remain in a career tract specifically designed to retain research-focused medical academics in the military.

The program is led by the Chief of the Brooke Army Medical Center Department of Clinical Investigation, 59th MDW Office of the Chief Scientist, Science & Technology (ST), San Antonio Uniformed Services Health Education Consortium (SAUSHEC), and all their partners within the United States Army Institute of Surgical Research (USAISR), San Antonio Military Health System (SAMHS) and Naval Medical Research Unit San Antonio (NAMRU-SA) to provide mentors willing to train and mentor clinician scientists in all areas of (DHP RDT&E) programmatic research.

For more information on the CSION program, visit <https://wilfordhall.tricare.mil/About-Us/59-MDW-Chief-Scientists-Office-Science-and-Technology/CSION>

Center for Advanced Molecular Detection (CAMD) Monthly Scientific Presentations

The Center for Advanced Molecular Detection (CAMD) has been hosting monthly Scientific Presentations since January of 2021. These presentations have undergone significant evolution since their inception, initially involving scientists solely within the 59th MDW Science and Technology group.

The format of these presentations can be either in person or virtual, thereby greatly increasing the accessibility and participation of a wider range of individuals.

Those interested in participating or attending these scientific presentations can contact the CAMD Director, Dr. Susana N. Asin, at Susana.n.asin.civ@health.mil or by phone at 210-292-0504.

Evaluation of the OsteoAdapt™/OrthoTex Therapeutic for a Critical Size Cranial Defect

Investigators: Dr. Nancy Millenbaugh¹, Dr. John Simecek¹, Dr. Heuy-Ching Wang¹, Dr. Todd Heil², Dr. Frank Vizesi², Dr. Luis Alvarez², Dr. Alexander Burdette³

¹Naval Medical Research Unit San Antonio, San Antonio, TX

²Theradaptive, Frederick, MD

³Air Force 59th Medical Wing Chief Scientist's Office, San Antonio, TX



Craniofacial (CMF) wounds accounted for 33.5% and 37.5% of injuries in Warfighters arriving to Echelon III/IV facilities during the wars in Iraq and Afghanistan. The rise in the use of explosive devices was a primary factor that resulted in devastating injuries with large bone defects that do not heal without therapeutic intervention. Autologous grafting is the gold standard of care for such injuries, but limitations of this approach include graft availability, donor site morbidity, ectopic bone formation, and prolonged inpatient care. Anatomical complexity of certain CMF structures further complicates treatment of large bone defects. Thus, alternative treatments that can restore critical size CMF bone defects in an accelerated fashion with fewer complications are urgently needed.

The Biotech company Theradaptive is working to produce the world's first on-demand, personalized regenerative implant capability. This technology provides the potential for multiple advantages including full regeneration of critical size defects without autografting, personalized anatomical implant geometry, bioactive scaffold with less ectopic bone formation, fewer surgeries, faster recovery and lower costs.

Through a multi-service collaboration with the Naval Medical Research Unit San Antonio, Air Force 59th Medical Wing Chief Scientist's Office and Theradaptive, we propose to evaluate Theradaptive's multifunctional platform, OsteoAdapt™/OrthoTex, to fully regenerate a large critical size cranial defect in comparison to autologous bone grafting in a large animal model.

This project addresses Military Dental Research Gaps under Maxillofacial Reconstruction and Regeneration and is funded by the Naval Medical Research Command's Naval Advanced Medical Development Program.

Cont..

The innovative aspect of this project is the use of a custom regenerative therapy consisting of: OsteoAdapt, a bioactive, clinical-stage scaffold, and OrthoTex, a 3D-printed personalized hollow or membrane-like anatomical implant. OsteoAdapt consists of a proprietary variant of bone morphogenetic protein 2 (BMP2) called AMP2 bound to a resorbable cotton-like scaffold. AMP2 binds tightly to its scaffold for more precise delivery than current FDA approved BMP2 products, thus preventing off-target heterotopic bone formation. OsteoAdapt has been tested in over 20 preclinical studies and granted three FDA Breakthrough Medical Device designations for spinal applications. OrthoTex is a bioresorbable, osteoconductive composite material; it is microporous, flexible, and conformable and can be 3D printed in a wide variety of geometries to provide hollow scaffolds or membranes to hold osteoinductive therapies such as OsteoAdapt.

This project will produce data demonstrating the efficacy of OsteoAdapt/ OrthoTex for regenerating critical size cranial defects in sheep to support transition and submission for FDA approval. Future testing will include toxicity/biocompatibility studies based on ISO 10993 and GLP studies for the targeted CMF indication. Theradaptive plans to proceed through the FDA Breakthrough Medical Device designation pathway. The overall goal will be for OsteoAdapt/ OrthoTex to improve the Warfighter's overall quality of life after trauma, facilitate more rapid return to duty, and significantly reduce health care costs.

The views of OsteoAdapt/ OrthoTex are not necessarily the official views of, or endorsed by, the U.S. Government, the Department of Defense, or the Department of the Air Force. No Federal endorsement of OsteoAdapt/ OrthoTex is intended.

ATTENTION INVENTORS AND INNOVATORS!

Do you have any questions on the following topics:

- What is Intellectual Property (IP)?
- How can IP be secured?
- What are the benefits of securing IP?
- What about IP arising from Cooperative Research and Development Agreements (CRADAs) or collaborations?
- I think I have developed an invention or a knowledge product, what should I do next?

The DHA will assist and fund patent filings for inventions and products that support the operational mission. Knowledge-based products such as protocols, processes, and training programs can also be licensed!

To learn more, and to engage a technology transfer specialist, please contact the Office of Research and Technology Applications (ORTA) by emailing usaf.jbsa.59-mdw.mbx.59-mdw-st-orta@health.mil or beth.e.drees.ctr@health.mil.

Learn Grants: Check out this link to the Grants Learning Center:
<https://www.grants.gov/learn-grants.html>.

The BAMC, Department of Clinical Investigations would like to invite you to our SAUSHEC AND CIRT RESEARCH AND TRAINING DAY 2025.

This year we are pleased to announce the combination of BAMC’s SAUSHEC Research Day and the Clinical Investigation Research Training (CIRT) Day on Thursday, April 17th! The Agenda and Flyer are attached.

TITLE: 2025 SAUSHEC Research Day and the Clinical Investigation Research Training (CIRT) Day Educational Event for the BAMC Research Community

SAUSHEC Research Day for GME, faculty & research community.
Fellow and Resident Research Podium Competition

AGENDA: TBA

DATE: 17 APRIL 2025 Thursday

TIME: 0800 - 1130

LOCATION: BAMC Internal Medicine Conference Room, 3rd Floor COTO, TG-307A

Resident Research and Clinical Vignette Poster Competition

DATE: 17 APRIL 2025 Thursday

TIME: 1000 – 1200

LOCATION: BAMC Medical Mall

KEYNOTE SPEAKER: Lt. Gen. Robert I. Miller (Ret.)

Executive Director of the Military Health Institute at UT Health San Antonio

DATE: 17 APRIL 2025 Thursday

TIME: 1200-1300

LOCATION: BAMC Internal Medicine Conference Room, 3rd Floor COTO, TG-307A

FLYER: Attached

Clinical Investigation Research Training for GME, faculty & research community.

Session 2

AGENDA: Attached

DATE: 17 APRIL 2024 Thursday

TIME: 1300 - 1435

LOCATION: BAMC Internal Medicine Conference Room, 3rd Floor COTO, TG-307A

SAUSHEC RESEARCH DAY & CLINICAL INVESTIGATION RESEARCH TRAINING DAY

PRESENTED BY SAN ANTONIO UNIFORMED SERVICES HEALTH EDUCATION CONSORTIUM AND THE DEPARTMENT OF CLINICAL INVESTIGATION

17 APRIL 2025

Keynote Lecture 1200-1300

Keynote Speaker:
Lt. Gen. Robert I. Miller
(Ret), MD, MBA, MSS, FAAP, FACHE, FACPE
Executive Director of the Military Health Institute at UT Health San Antonio

SAUSHEC Research Day
0800-1015: Fellow Research Podium Competition
1015-1130: Resident Research Podium Competition
1000-1200: Resident Research & Clinical Vignette Poster Competitions *Located in Medical Mall
1500-1530: SAUSHEC Research Day Awards Ceremony

Clinical Investigation Research Training (CIRT)
1320-1335: Navigating the Funding and Finance Jungle - Jeff Quillin
Finance & Grants Mgmt (DCI)
1335-1350: Statistical Considerations & Data Resources for Research- Cristy Landt
1350-1405: Navigating IRB & eIRB - Sandra Escolas, PhD, CIP
1405-1420: Pathology - CPT Amina Zeidan
1420-1435: BAMC Research Pharmacy & Services - Dr. Barbara Hoeben

REGISTER HERE:

BROOKE ARMY MEDICAL CENTER
1M RESIDENCY CONFERENCE ROOM (TG307)

LIGHT RECEPTIONS WILL BE AVAILABLE.

Military Aviator Peer Support Program Expands with 59th Medical Wing Research and Leadership

Author: Senior Airman Matthew-John Braman



JOINT BASE SAN ANTONIO - LACKLAND, Texas – A groundbreaking initiative at Ramstein Air Base, Germany, is reshaping the way Air Force aviators receive mental health support. The Military Aviator Peer Support (MAPS) program, spearheaded by the 86th Operations Group, provides aircrew with peer-based, non-medical support to address life stressors and mental health concerns. Backed by the expertise and research of the 59th Medical Wing (MDW), this initiative aims to break down barriers to care and enhance operational readiness across the Air Force.

Bridging Mental Health Gaps Through Peer Support

Aviation peer support programs have long been used by commercial airlines, offering pilots and aircrew a confidential, informal avenue to discuss stressors with trained peers. However, such a system has yet to be widely implemented within the U.S. Air Force. The 59th MDW's Aircrew Brain and Mental Health Research Program, led by Capt. (Dr.) William Hoffman, neurologist and aeromedical researcher, has been instrumental in adapting this model for military aviation.

Hoffman's research highlights a significant issue among aircrew: healthcare avoidance due to fear of losing flight status. A study he led involving 3,765 U.S. pilots found that 56.1% reported avoiding medical care for concerns ranging from minor ailments to mental health issues. Among U.S. military pilots, this rate was even higher—72% admitted to withholding medical concerns out of fear for their careers. These findings underscored the urgent need for a system that encourages early intervention without jeopardizing an aviator's ability to fly.

Continue..

The 59th Medical Wing's Role in Supporting Airmen



Capt. (Dr.) William Hoffman

With these insights, Capt (Dr) Hoffman and the 59th MDW partnered with Lt. Col. (Dr.) Sandra “Salty” Salzman, a C-130J pilot-physician and aviation peer support program lead, to establish the MAPS program at the 86th Operations Group. The program formally launched in November 2024, training 32 peer supporters—both enlisted and officer aircrew—to support more than 500 Airmen. These trained peers provide a confidential, approachable first line of support, guiding fellow aviators through stressors and connecting them with additional resources when needed.

The involvement of the 59th MDW extends beyond research; it also provides critical education and advisory support. By integrating expertise from medical and operational communities, MAPS ensures that aircrew have access to reliable guidance on mental well-being while maintaining their readiness for flight operations.

A Data-Driven Approach to Long-Term Success

Since its inception, the MAPS program has been closely monitored by the 59th MDW’s research team to assess its impact and explore potential expansion across the Air Force. Early findings suggest that peer support plays a crucial role in reducing healthcare avoidance and improving Airmen’s willingness to seek assistance. As a result, Hoffman has advocated for broader implementation of aviation peer support, briefing key leaders, including Brig. Gen. Gwendolyn Foster, 59th Medical Wing commander, and Dr. Tanisha Hammill, Chief Scientist of the Air Force medical service.

Hoffman’s efforts extend beyond the Air Force, as he also serves as the Department of Defense’s representative on the Federal Aviation Administration’s 2024 Aviation Rulemaking Committee on Mental Health. His work aims to integrate peer support into aviation safety management systems, ensuring that both military and commercial aviators benefit from improved mental health resources.

Shaping the Future of Mental Health in Military Aviation

Looking ahead, the MAPS program represents a significant shift in how mental health is addressed within operational units. The 59th MDW’s continued research and leadership will be critical in refining the program and expanding it to other Air Force units. Hoffman, who will co-lead a mental health and peer support workshop at the Aerospace Medical Association Scientific Meeting in June 2025, remains committed to driving this initiative forward.

As the Air Force prioritizes resilience and readiness, the MAPS program—supported by the 59th MDW—sets a new standard for mental health care within military aviation. By reducing barriers to care, fostering trust, and leveraging data-driven strategies, this initiative not only strengthens individual Airmen but also enhances the overall effectiveness of the force.

VOLUNTEER | Human Subjects Research Designated Reviewer

The 59 MDW Human Research Protection Program (HRPP), overseen by 59 MDW Science & Technology, is seeking active duty and civil service volunteers assigned to the 59 MDW to serve as Designated Reviewers. Volunteers will be appointed as San Antonio Institutional Review Board members, will conduct human subjects research protocol reviews, and will make approval recommendations in accordance with regulatory and ethical requirements. Prior experience in conducting or reviewing human subjects research studies is desired. Time burden for this duty includes approximately 20 hours of initial training; monthly time commitment is approximately 3-4 days/month. For more details on this opportunity, please contact Ms. Jessica Mercado, Human Protections Administrator, at jessica.mercado14.civ@health.mil or 210-292-2977.

FUNDING ANNOUNCEMENTS

Those who intend to submit to any of these funding opportunities are to contact the ST office at 210-292-2097 or usaf.jbsa.59-mdw.mbx.59-mdw-st@health.mil for assistance. Documents requiring 59 MDW/ST review, must be submitted NLT 10 business days prior to the submission deadline.

Congressionally Directed Medical Research Programs (CDMRP): All CDMRP funding opportunities, both recently and previously released are available on the CDMRP website <https://cdmrp.health.mil>.

Below are the FY25 Pre-announcements available for consideration:

- Amyotrophic Lateral Sclerosis Research Program, <https://cdmrp.health.mil/pubs/press/2025/25alsrppreann>
- Autism Research Program, <https://cdmrp.health.mil/pubs/press/2025/25arppreann>
- Breast Cancer Research Program, <https://cdmrp.health.mil/pubs/press/2025/25bcrrppreann>
- Epilepsy Research Program, <https://cdmrp.health.mil/pubs/press/2025/25erppreann>
- Hearing Restoration Research Program, <https://cdmrp.health.mil/pubs/press/2025/25hrppreann>
- Joint Warfighter Medical Research Program, <https://cdmrp.health.mil/pubs/press/2025/25jwmrppreann>
- Lung Cancer Research Program, <https://cdmrp.health.mil/pubs/press/2025/25lcrppreann>
- Lupus Research Program, <https://cdmrp.health.mil/pubs/press/2025/25lrppreann>
- Melanoma Research Program, <https://cdmrp.health.mil/pubs/press/2025/25mrppreann>
- Ovarian Cancer Research Program, <https://cdmrp.health.mil/pubs/press/2025/25ocrppreann>
- Parkinson's Research Program, <https://cdmrp.health.mil/pubs/press/2025/25prppreann>
- Peer Reviewed Alzheimer's Research Program, <https://cdmrp.health.mil/pubs/press/2025/25prarppreann>
- Peer Reviewed Cancer Research Program, <https://cdmrp.health.mil/pubs/press/2025/25pcrppreann>
- Spinal Cord Injury Research Program, <https://cdmrp.health.mil/pubs/press/2025/25scirppreann>
- Traumatic Brain Injury and Psychological Health Research Program, <https://cdmrp.health.mil/pubs/press/2025/25tbiphrppreann>
- Tuberous Sclerosis Complex Research Program, <https://cdmrp.health.mil/pubs/press/2025/25tsrppreann>
- Vision Research Program (VRP), <https://cdmrp.health.mil/pubs/press/2025/25vrppreann>

National Institute of Health (NIH): <https://grants.nih.gov/grants/how-to-apply-application-guide/due-dates-and-submission-policies/due-dates.htm>.

Defense Advanced Research Projects Agency (DARPA), Biotechnologies Office (BTO): BTO's mission is to develop capabilities that leverage the unique properties of biology adaption, replication, resilience, and complexity, to revolutionize how the United States defends the homeland and prepares and protects its Warfighters. Research in BTO creates biotechnological capabilities that provide tactical care and restore function to injured warfighters, increase operational resilience, develop novel functional materials, and detect and protect against threats to maintain force readiness. This announcement seeks revolutionary research ideas for topics not being addressed by ongoing BTO programs or other published solicitations. For more information use Funding Opportunity Number: HR001123S0045 at <http://www.grants.gov/>.

The Medical Technology Enterprise Consortium (MTEC) is a nonprofit corporation that operates under an Other Transaction Agreement (OTA) for prototypes with the U.S. Army Medical Research and Development Command (USAMRDC). MTEC is a significant potential funding source for those conducting research in areas of interest to the military. For more information, visit <https://www.mtec-sc.org/upcoming-solicitations/>.

Science and Technology Contact Information



Our Vision

Grow Medical Leaders, Drive Innovations in Patient Centered Care and Readiness

Our Mission

Conduct clinical studies and translational research and apply knowledge gained to enhance performance, protect the force, and advance medical care and capabilities

Points of Contact

Chief Scientist's Office
Science and Technology
59th Medical Wing
1632 Nellis Street, Bldg. 5406,

JBSA-Lackland TX 78236
Admin Support (292-2097)
Senior Program Analyst (292-2761)
Senior Scientist (292-3513)
Clinical Investigations/CIRS (292-7068)
Area Code: 210; DSN: 554

ST email: usaf.jbsa.59-mdw.mbx.59-mdw-st@health.mil

Kx site: <https://kx.health.mil/kj/kx8/59MDWScienceAndTechnology/Pages/home.aspx>

Public site: <https://wilfordhall.tricare.mil/About-Us/Research-and-Education/59-MDW-Chief-Scientists-Office-Science-and-Technology>

YouTube: <https://youtu.be/MNVv14R-X4s?si=im8ctAYG6wH2rjdV>