



**U.S. ARMY MEDICAL RESEARCH AND MATERIEL COMMAND**  
**2015 Command Accomplishments**



# 2015 COMMAND ACCOMPLISHMENTS

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# I COMBAT CASUALTY CARE/TRAUMA & ACUTE CARE

- ★ Received FDA 510(k) clearance for the ER-REBOA catheter. Resuscitative Endovascular Balloon Occlusion of the Aorta is a minimally invasive technique used by the Trauma, Critical Care and Emergency Medicine community to temporarily occlude large vessels using a balloon to prevent death from non-compressible hemorrhage. (CCCRP)
- ★ Established cooperation with the USAF in pursuing FDA clearance of a dedicated vascular shunt specifically for trauma. Vascular shunts are used by surgeons to temporarily restore blood flow as a damage control surgical procedure. (CCCRP)
- ★ Established the Linking Investigations in Trauma and Emergency Surgery multi-center clinical research network by which products or devices can be introduced into realistic clinical scenarios to gain insight into pragmatic usage and clinical effectiveness. (CCCRP)
- ★ Executed two awards to continue working on the DARPA Fracture Putty program. The goal is to provide definitive care closer to the point of injury in the forward care environment. (CCCRP)
- ★ Conducted a state-of-the-science meeting on cellular therapies as treatments for trauma, to establish a roadmap for translating research and development efforts to the bedside. (CCCRP)
- ★ Completed a Milestone B review of Sufentanil for Battlefield Pain Management, a new treatment for acute pain. (USAMMDA)
- ★ Received both the Major Jonathan Letterman Medical Excellence Award and the inaugural Military Health System Battlefield Innovation Award., in recognition of a decade of achievement in support of deployed combat casualty care. (JTS/USAISR)
- ★ Partnered with the 75th Ranger Regiment to develop the “Ranger O-Low Titer” program for battlefield whole blood collection and transfusion. This program identifies Rangers with low anti-A and anti-B titer Group O blood to serve as universal blood donors in battlefield transfusion. This program is being evaluated by the USMC and USNSW units. (USAISR)
- ★ Identified a commercially-developed, 100-percent effective wound dressing to stop life-threatening femoral artery or high-grade liver injury bleeding, demonstrated in an animal model including trauma-related coagulopathy. This is the first dressing free of biological component to demonstrate this level of efficacy. (USAISR)
- ★ Observed that two- hour application of the CRoC, JETT and SAM junctional TKs prevented groin hemorrhage with little hemodynamic, biochemical or histological consequences upon release in the swine femoral artery injury model. Placement of the AAJT for two hours around the lower abdomen resulted in more severe hemodynamic and metabolic responses than the other JTKs requiring mechanical ventilation on release to improve survival. (USAISR)
- ★ Validated, statistically the Golden Hour policy which has saved over 350 lives by reducing MEDEVAC times. JTS programs and DOD Trauma Registry-based research continue to contribute to the historically low case fatality rate, of less than 9 percent, as well as the unprecedented survival of rate of 98 percent for deployed casualties arriving alive at military treatment facilities. Altmetric calculates the impact factor the Golden Hour paper to be in the top 10 (#8) of all papers published in JAMA Surgery last year. (JTS/USAISR)
- ★ Provided 119 organizations with data analysis and unique trauma data sets, led 38 performance improvement projects, which helped identify and close gaps in combat casualty care and contributed to heightening medical/logistical readiness, and published Clinical Practice Guidelines to incorporate new life-saving techniques. JTS educated providers on new life-saving techniques and policy updates, reaching 1,139 professionals through 51 continuing education conferences during which a total of 62 patient cases were reviewed for lessons learned and 2,424 CMEs and 1,028 Continuing Nurse Education credits were awarded. (JTS/USAISR)

- ★ Created a Joint En Route Care Registry that can be linked to the DOD Trauma Registry to capture clinical care provided during all modes of transport, ultimately improving en route care outcomes. (CCCRP)
- ★ Concluded through comprehensive analysis of historical data that the administration of blood to improve laboratory values prior to aeromedical evacuation is not beneficial to patients. Clinical practice guidelines are being updated to reflect this new knowledge. (CCCRP)
- ★ Determined in a lab study that there was no additional detriment to patients with spinal cord injuries exposed to vibration experienced during helicopter transport. While further research is warranted, the findings support current medical evacuation policies and procedures. (CCCRP)
- ★ Developed and operationally evaluating four commercially available junctional hemorrhage control devices developed in coordination with DOD R&D Programs to address Junctional Hemorrhage. Prior to 2010, no technologies existed to control junctional hemorrhage, accounting for 4 percent of all combat deaths; the gap is now considered filled. (CCCRP)
- ★ Developed in collaboration with industry the X-Stat Hemostatic Dressing and transitioned from advanced development through FDA approval for use in civilian trauma populations. Coordinated with CoTCCC to incorporate into training curriculum to increase fielding to conventional and Special Forces. (CCCRP)
- ★ Completed Phase 2 clinical trial for Whole Blood Pathogen Reduction Device to treat blood components. This technology will provide DOD the capability to rapidly perform pathogen reduction on fresh whole blood in the combat environment and is pending Phase 3 study in FY16. (CCCRP)
- ★ Completed clinical trial on Pragmatic, Randomized Optimal Platelet and Plasma Ratio Study prospectively evaluating transfusion ratios in trauma resuscitation. The multicenter study evaluating massive transfusion in civilian trauma was conducted in conjunction with NHLBI and confirmed optimal transfusion ratios for trauma resuscitation. (CCCRP)
- ★ Established Interagency Strategic Action Plan for Blood Products for Emergency Preparedness. (CCCRP)
- ★ Collaborated with Pryor Medical, Inc. in a study of the efficacy of resuscitative endovascular balloon occlusion of the aorta for the treatment of lethal hemorrhagic shock. Contributed to FDA approval of the first device specifically developed for this application. Non-compressible hemorrhage remains the leading potentially preventable cause of battlefield death. (USAISR)
- ★ Found that low-pressure irrigation with saline is an acceptable, lower-cost alternative to high-pressure irrigation or irrigation with soap solution to prevent infection in open fractures during the FLOW study. The New England Journal of Medicine published the findings, which inform the most common surgical procedure in combat casualty treatment. (USAISR)
- ★ Collaborated with the Mayo Clinic on a permission request to the FDA to store refrigerated platelet units collected by apheresis for use in resuscitation of bleeding patients. Research showed superior hemostatic function in platelets stored at cold temperatures. The FDA approved the request in July 2015, paving the way for further development of cold platelet products for battlefield use. (USAISR)



# 2 CLINICAL & REGENERATIVE MEDICINE

Developed hybrid hearing protection technology that reduces auditory injury risk from blast exposure and improves high fidelity sound transmission for ease of communication and increased situational awareness with impulse and continuous noise protection. Next steps will be third party performance testing and submission as a potential candidate for the Tactical Communication and Protective System. (MOMRP)

- ★ Received investigational new drug clearance to begin clinical trials for an off-the-shelf adipose-derived extracellular matrix scaffold for reconstruction of soft tissue defects and soft tissue augmentation. Findings to date demonstrate that soluble factors in the material have potential to promote stem cell migration into the implanted tissues. (CRM RP)
- ★ Received FDA approval for limited clinical use of two direct skeletal attachment prostheses (also known as osseointegration). Clinical testing will begin in two separate studies, evaluating patients typically unable to use standard prosthetic sockets, one with transfemoral amputation and the other with transhumeral amputation. Results of these studies will contribute towards full FDA approval of osseointegration devices and procedures for amputation patients. (CRM RP)
- ★ Funded by the Clinical and Rehabilitative Medicine Research Program, researchers at Stanford University developed an endoscope that can image the ear at high resolution. The objective is to produce a safe, non-invasive, portable device to improve diagnosis and treatment of blast-induced hearing loss. The device being tested in human temporal bone and to characterize cellular changes that occur within the first 24 hours after blast injury. (CRM RP)
- ★ Developed hybrid hearing protection technology that reduces auditory injury risk from blast exposure and improves high fidelity sound transmission for ease of communication and increased situational awareness with impulse and continuous noise protection. Next steps will be third party performance testing and submission as a potential candidate for the Tactical Communication and Protective System. (MOMRP)
- ★ Provided education and training for the efficient delivery of research, clinical knowledge and best practices to providers across the Military Health System and Department of Veterans Affairs. During a three-day summit DCoE provided 7,794 continuing education credits and 422 certificates of attendance for more than 1,100 DOD and VA health care providers — the majority of whom participated using a virtual training platform. DCoE trained 186 military providers on the integration of technology into clinical care and awarded 995 continuing education credits. DCoE executed an additional 62 webinars reaching 9,744 participants and awarding 4,139 continuing education credits. (DCoE)

# 3 BRAIN HEALTH

- ★ Received FDA 510(k) pre-market clearance (no safety concerns) for Brainscope's Ahead 200, a portable electroencephalogram technology. This device records and analyzes an individual's brain electrical activity. (CCCRP)
- ★ Received FDA 510(k) pre-market clearance (no safety concerns) for Neurowave's SeizTBI/Discover EEG, a portable battery operated electro-encephalograph measurement device. (CCCRP)
- ★ Made significant progress on the TBI End Points Development Initiative in preparing data for Metadataset analysis to include creating a harmonization workbook and entering over 36,000 data objects into Palantir Gotham. (CCCRP)
- ★ The Federal Interagency TBI Research Informatics system, a joint DOD and National Institutes of Health platform to characterize and store data generated from TBI studies, continued to mature capabilities to support data submission, employing semantic web technologies into the dictionary tool, expanding Common Data Element and ProFoRMS clinical tool development. Currently FITBIR contains 6590 unique de-identified subjects with 323,007 data records from 95 Clinical trials. (CCCRP)
- ★ Signed a Cooperative Research and Development Agreement with the University of Michigan, Michigan Center for Integrative Research in Critical Care to develop new technologies for the triage and treatment of moderate and severe TBI at the point of injury and through the Golden

Hour. MCIRCC received a supporting endowment from the Massey Foundation for this effort. (CCCRP) Advanced to Phase II clinical trial for moderate to severe traumatic brain injury NNZ 2566 (Neuren Pharmaceuticals, Ltd), an analog of Glypromate® (Glycine-Proline-Glutamate), a naturally occurring small molecule neuroprotective, derived from IGF-1 (Insulin-like Growth Factor). (CCCRP)The Neurotrauma and Psychological Health Project Management Office's industry partner, Banyan Biomarkers, submitted a pre-submission package for Pre-Market Approval of the Laboratory Assay for Traumatic Brain Injury in November 2015. (USAMMDA)

- ★ Started managing, in collaboration with the military Services, the development of a DOD TBI Pathway of Care to support goals of maximizing Warfighter and beneficiary outcomes, advancing high clinical standards and decreasing variances through continuous performance improvement. DVBIC received signature approval of the TBI Advisory Committee charter June 25, 2015. (DCoE)
- ★ Supported efforts that led to FDA approval of The BrainPort V100, a non-surgical assistive device intended for orientation, mobility, object identification, and spot reading by blind individuals. The BrainPort V100 translates digital information from a video camera into gentle electrical stimulation patterns on the surface of the tongue and is a significant step towards providing advanced technology to restore environmental awareness for those that have lost their vision. (CRM RP)

# 4 BURN CARE

- ★ Flew its first successful mission using the first ever in-flight Continuous Renal Replacement Therapy on a patient being transported to the burn center. (USAISR)



# 5 BEHAVIORAL HEALTH

- ★ Demonstrated in a randomized controlled trial the efficacy of a brief cognitive behavior therapy for suicidality in a high-risk active duty population. The goal is to reduce suicide re-attempts and feasibility of delivering the intervention to an active duty population. (MOMRP)
- ★ Oversaw 84 research protocols and 13 RAND studies to improve treatment and care of service members, veterans and their families living with psychological health and traumatic brain injury concerns. DCoE completed studies including: a congressionally-mandated study of cognitive rehabilitation treatment for mild TBI; study recruitment, data collection and main analyses for the research trial called Stepped Enhancement of PTSD Services Using Primary Care. A seminal study regarding the effect of deployment on suicide outcomes was published in JAMA Psychiatry. (DCoE)
- ★ Evaluated the clinical effectiveness of a telemental health modality (video-teleconferencing; VTC) for providing an evidence-based group intervention to female rural Reservists, National Guardsmen, and veterans suffering with posttraumatic stress disorder. Determined that providing psychotherapy to women with PTSD via VTC produced outcomes comparable to in-person treatment. (MOMRP)
- ★ Coordinated a Defense Health Agency Procedural Instruction and a DOD Instruction to support continuity of mental health for Service Members transitioning between DoD and VA. The inTransition program supports service members experiencing a transition while receiving mental health care by providing global, specialized, telephonic transition coaching to facilitate the connection to a new provider. A 2014 Presidential Executive Action directed DoD to automatically enroll all service members who received mental health treatment within 12 months of separation. (DCoE)
- ★ Developed, along with other DOD experts, a new suite of tools to enhance the quality of care provided to patients who disclose sexual assault or sexual harassment to health care personnel. The DoD Health Care Provider Sexual Assault/Sexual Harassment Product Suite will help Military Health System providers adhere to clinical best practices and implement the procedures in Department of Defense Instruction 6495.02, "Sexual Assault Prevention and Response Program Procedures." The tools are a joint effort of the Department of Defense Psychological Health Council Sexual Assault Advisory Group, Health Affairs Women's Issues Work Group, Department of Defense Sexual Assault Prevention and Response Office, Department of Defense Family Advocacy Program, the Military Services, and DCoE. (DCoE)





## READINESS & ENVIRONMENTAL MEDICINE

- ★ Completed user acceptance and Independent Verification and Validation for the Altitude Readiness Management System. ARMS was integrated into the Nett Warrior End User Device software baseline for inclusion in all Nett Warrior future releases to the field beginning on April 15, 2015. (USAMMDA)
- ★ Served as command and control unit for the March 2015 NCR Expert Field Medical Badge, training 235 personnel and awarding the badge to 46 candidates. Additionally, 6<sup>th</sup> MLMC administered the written exam, and ran the land navigation and road march lanes. (6MLMC)
- ★ Completed the Army Safety and Health Management System audit, with a recommended Army Safety and Occupational Health Star early next year. (USACEHR)
- ★ Received certification as an Army Safety and Occupational Health Star Site, marking USAMMDA as an exemplary worksite with a comprehensive, successful safety and health management system on July 30, 2015, a very difficult recognition to receive. (USAMMDA)
- ★ Received full Accreditation by the Association for Assessment and Accreditation of Laboratory Animal Care International for the new rodent and existing aquatics vivarium. (USACEHR)
- ★ Supported progression of the Environmental Sentinel Biomonitor, a toxicity sensor for field drinking water, through user testing and the passing of Milestone B in advanced development, with a planned completion of Milestone C early next year. (USACEHR)
- ★ Defended, successfully, a provisional patent application for Articles for Diagnostic Test of Liver Fibrosis with the USAMRMC patent office for review. (USACEHR)
- ★ Submitted a provisional patent application for Diagnostic and Therapeutic Strategies for Intervention in Post-Traumatic Stress Disorder with the Foundation for the National Institutes of Health Biomarker Consortium. (USACEHR)
- ★ Carried out pilot studies and collected data on the longitudinal alterations of the gut microbiome, and evaluated a neurocognitive drug in a mouse model that simulates aspects of post-traumatic stress disorder. (USACEHR)
- ★ Established a database and biorepository for more than 80,000 samples linked to clinical parameters to identify candidate blood biomarkers. The study collects a pre-deployment phase and two post-deployment phases of samples and data from a total of 1671 male and 122 female subjects. (USACEHR)
- ★ Completed the Physical Demands Study, a three-phase process tasked by U.S. Army Training and Doctrine Command which involved over 1,100 Soldiers, to establish occupational-specific standards for the combat arms specialties. The study produced the Occupational Physical Assessment Test, a valid, safe, and legally defensible set of physical performance tests. These ensure all combat arms Soldiers have the physical fitness required to perform critical, physically demanding tasks in each specialty regardless of gender. (USARIEM)
- ★ Completed Technology Transition Agreements for scientifically founded decision aids, completed biophysical assessments and modeling studies for current and prototype body armor systems. Conducted and published results of biophysical assessment of all currently used personal protective clothing ensembles for healthcare responders during the Ebola outbreak in West Africa. These enabled predictions of heat stress in West Africa based on human sizes and activity levels. (USARIEM)

- ★ Transitioned the Altitude Readiness Management System and the Soldier Water Estimation Tool software application to PM Nett Warrior and fielded to FORSCOM and SOCOM units in April 2015. ARMS is the first mission-composite risk-management decision aid helping leaders to better plan training and operational missions at high altitudes and mitigate the impact of altitude on health and performance. SWET is a decision aid that estimates drinking water requirements providing leaders with a new field expedient capability to accurately plan drinking water requirements and sustain Warfighter health and performance. (USARIEM)
- ★ Took a leadership role to better understand the impact of military operational stressors on the gut microbiome by gathering scientists from across the DOD to learn from each other and coordinate research efforts. Evidence accumulated by scientists at USARIEM was utilized to initiate the implementation a fortified snack product containing calcium and vitamin D for optimization of bone health and a multi-vitamin containing iron for maintenance of iron in women during initial military training. (USARIEM)
- ★ Supported USEUCOM's reassurance and readiness efforts in response to Russian aggression by receiving and managing an Armor Brigade Combat Teams' complement of medical sets, kits, and outfits worth more than \$10 million (part of Army Prepositioned Set 5 and European Activity Sets). In addition, D&T managed more than \$6 million worth of contingency materiel for pandemic outbreaks and nuclear, chemical, and biological threats, directly increasing readiness of the Combatant Command. (USAMMCE)
- ★ Produced and delivered 50,641 pairs of eyewear to CENTCOM, EUCOM and AFRICOM. OAD provided support to more than 24 clinics and continued to acquire new customers because of troop rotations. (USAMMCE)
- ★ Released ComRaD, an interactive, educational website (<http://hprc-online.org/comrad/>) designed for visitors to view accurate, up-to-date nutritional information on individual combat ration menus and individual food components packed inside. ComRaD enables warriors, military dietitians, food service officers, and leaders to understand combat ration nutrition and use this information to help with fueling for optimal performance. (MOMRP) Stood-up and manned the Command Surgeon MEDLOG cell for CFTF — Operation Inherent Resolve. (6MLMC)
- ★ Executed FORSCOM directed train-the-trainer programs two Combat Support Hospitals and one Medical Logistics Company in MEDLOG systems with training contributing to the certification of these deploying units in to the CENTCOM AOR. (6MLMC)
- ★ Provided strategic level MEDLOG support and augmentation at the ASCC level ISO for seven major COCOM level exercises to include Ulchi Freedom Guardian, Key Resolve, Vibrant Response, Sudden Response, and planning conferences linking strategic MEDLOG assets to the operational and tactical units on the ground. (6MLMC)
- ★ Executed 9 FORSCOM CDP inspections and supported the force with subject matter expertise to units across FORSCOM. (6MLMC)
- ★ Trained 1<sup>st</sup> Infantry Division, and other Fort Riley units on the DISA Server Solution creating successful connections to DMLSS through the DISA proxy server in a stateside fielded training event. (6MLMC)
- ★ Created an enduring partnership with USPACOM and USFK through the creation of a Medical Skills Reset Program with USAMMC-K, increasing work capacity of USAMMC-K, enhancing the skills of five 6MLMC Soldiers since inception. (6MLMC)

Executed FORSCOM directed train-the-trainer programs two Combat Support Hospitals and one Medical Logistics Company in MEDLOG systems with training contributing to the certification of these deploying units in to the CENTCOM AOR. (6MLMC)

# 7 INFECTIOUS DISEASE

- ★ Led the effort to provide investigational Intravenous Artesunate to treat severe malaria. The first patient was successfully treated under this protocol at Landstuhl Regional Medical Center. (USAMMDA)
- ★ Initiated enrollment for the first ever experimental dengue human challenge study. This model system will streamline future product development efforts. (MIDRP)
- ★ Received approval by the FDA to begin safety studies of an anti-infective skin substitute to treat military personnel with combat-related wound infections. (MIDRP)
- ★ Completed three clinical trials evaluating the safety and immunogenicity of bacterial diarrhea vaccine candidates. The most promising candidates will be down selected for further clinical evaluation. (MIDRP)
- ★ Demonstrated long lasting protection against malaria infection using two different vaccine candidates. Both DOD candidates are being further evaluated for potential global use. (MIDRP)



## Tiny Organism, Enormous Toll

- 17% of all infectious diseases
- 600,000 Malaria deaths per year
- 2.5 billion at risk of Dengue fever
- 725,000 die after mosquito bite per year

## Humans Killed in Big Animal Encounters Per Year



SNAKE  
50,000



CROCODILE  
1000



HIPPO  
500



SHARK  
10

Source: Galanotes

# 8 BIODEFENSE



- ★ Conducted ribbon cutting ceremony on the newly constructed \$350 million USAMRICD research facility at the U.S. Army Garrison, Aberdeen Proving Ground. (USAMRICD)
- ★ Developed and validated the laboratory reagent resupply Concept of Operations for Operation United Assistance. (6MLMC)
- ★ Presented research progress updates at the National Institutes of Health, National Institute of Neurological Disorders and Stroke, Countermeasures Against Chemical Threats annual meeting. Twenty-seven scientists and members of the command staff briefed CounterACT program administrators on aspects of executing an approximately \$10 million effort across 15 research projects. (USAMRICD)
- ★ Published new editions of the Field Management of Chemical Casualties Handbook for physicians, nurses, and physician assistants and the Field Management of Chemical Casualties Handbook for medics and corpsman in both print and digital formats. (USAMRICD)
- ★ Hosted the Medical Management of Nerve Agent Casualties Workshop under the auspices of the Chemical-Biological-Radiological Memorandum of Understanding MCMC Task 5. Fifty-two individuals representing the science and technology, advanced development, military requirements, military medical operations, and civilian public health communities attended from Australia, Canada, the United Kingdom and the United States. (USAMRICD)
- ★ Trained 990 medical professionals who were awarded over 13,979 continuing medical education credits through their participation in the Medical Management or Field Management of Chemical and Biological Casualties Courses or the Hospital Management of Chemical, Biological, Radiological, Nuclear and Explosive Incidents Course. (USAMRICD)
- ★ Initiated construction and curriculum development of a Wide Area Virtual Environment simulation center to improve training of healthcare providers and first responders managing casualties of complex catastrophic megacity incidents and dynamic threat environments. (USAMRICD)

# 9 ACQUISITION, MATERIEL & LOGISTICS

- ★ Fielded \$23.5 million in medical materiel to tactical units worldwide in support of Army Contingency Operations, unit activations, conversions, RESETs and modernizations. FSD conducted 790 direct ship materiel delivery actions and executed 47 materiel fielding visits across all COMPOs. USAMMA built 2,519 new sets and 187 upgrade packages for those units. (USAMMA)
- ★ Re-capitalized 1,775 maintenance-significant pieces of equipment, increasing Force Readiness and generating a cost avoidance of approximately \$12.9 million. Calibrated 3,500 items of Special Purpose Test, Measurement, and Diagnostic Equipment, ensuring MTOE unit level repairers could perform routine services at the unit level. Completed 5,155 Repair and Return work orders for MTOE customers. Served as the primary Sustainment level medical maintenance capability for the Army MTOE units with medical equipment. (USAMMA)
- ★ Saved the Army a projected \$5.6 million by working with HQDA 3/5/7, OTSG HCO FM and OCAR/USARC to reduce the size of the new hospital Medical Baseline Equipment sets being issued at Combat Support Hospital home stations for collective and individual training. (USAMMA)
- ★ Communicated and tracked 1,076 Medical Materiel Quality Control messages to more than 8,000 Joint stakeholders; requisitioned more than 1.7 million doses of influenza vaccine valued at more than \$18 million and provided it to more than 110 locations globally; monitored 1,833 shipments of anthrax, smallpox and adenovirus vaccine totaling \$43.8 million with more than 99 percent delivered without loss due to temperature excursion. (USAMMA)
- ★ Awarded contracts to facilitate Food and Drug Administration approval for the intra-cavity non-compressible hemorrhage control agent designed to reduce patient blood loss on the battlefield and the Portable Neuromodulation Stimulator device, an electrode-covered appliance user's place on the tongue and use in conjunction with cranial nerve non-invasive neuromodulation to improve gait and balance deficits related to traumatic brain injury. (USAMMA)
- ★ Supported crisis situations including the shipment of 43,000 pounds of personal protective equipment to the Republic of South Korea in response of the MERS outbreak and processing a \$16 million order for the Syrian refugee crisis. Along with these projects, the unit also provided support of direct shipment of over \$5 million worth of medical materiel to the Afghan National Police and USAMMC-SWAs support to CENTCOM with a potential Non Combatant Evacuation Operation in Iraq to purchase medical materiel worth more than \$1.4 million (totaling 36 complete sets). (USAMMCE)

Awarded contracts to facilitate Food and Drug Administration approval for the intra-cavity non-compressible hemorrhage control agent designed to reduce patient blood loss on the battlefield and the Portable Neuromodulation Stimulator device, an electrode-covered appliance user's place on the tongue and use in conjunction with cranial nerve non-invasive neuromodulation to improve gait and balance deficits related to traumatic brain injury. (USAMMA)

## **FOR MORE INFORMATION:**

**USAMRMC Headquarters, (301) 619-2736, <https://mrmc.amedd.army.mil>**

U.S. Army Aeromedical Research Laboratory, (334) 255-6883, <http://www.usaarl.army.mil>

U.S. Army Institute of Surgical Research, (210) 916-3219, <http://www.usaisr.amedd.army.mil>

U.S. Army Medical Research Institute of Chemical Defense, (410) 436-3276, <http://chemdef.apgea.army.mil>

U.S. Army Center for Environmental Health Research, (301) 619-7685, <http://usacehr.amedd.army.mil>

U.S. Army Medical Research Institute of Infectious Diseases, (301) 619-2285, <http://www.usamriid.army.mil>

U.S. Army Research Institute of Environmental Medicine, (508) 233-4811, <http://www.usariem.army.mil>

Walter Reed Army Institute of Research, (301) 319-9471, <http://www.wrair.army.mil>

U.S. Army Medical Materiel Development Activity, (301) 619-7643, <http://www.usammda.army.mil>

U.S. Army Medical Materiel Agency, (301) 619-7461, <http://www.usamma.army.mil>

U.S. Army Medical Materiel Center-Europe, 011-49-633-186-6426, <http://usammce.amedd.army.mil>

U.S. Army Medical Materiel Center-Korea, 011-82-54-970-8365, <http://usammc-k.amedd.army.mil>

U.S. Army Medical Research Acquisition Activity, (301) 619-2183, <http://www.usamraa.army.mil>

6th Medical Logistics Management Center, (301) 619-7488, <http://6mlmc.amedd.army.mil>

Armed Forces Medical Examiner System, (302) 346-8648, <http://www.afmes.mil>

National Museum of Health and Medicine, (301) 319-3349, <http://www.medicalmuseum.mil>

Congressionally Directed Medical Research Programs, (301) 619-7071, <http://cdmrp.army.mil>

Telemedicine and Advanced Technology Research Center, (301) 619-7927, <http://www.tatrc.org>

Defense Centers of Excellence, (800) 510-7897, <http://dcoe.mil>

