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For Immediate Release

Traumatic brain injury patients imaged swifter and safer with new technology

The Uniformed Services University of the Health Sciences (USU) Center for Neuroscience and Regenerative Medicine (CNRM), in partnership with the National Institutes of Health (NIH) Clinical Center, recently placed into testing a whole-body simultaneous positron emission topography (PET) and magnetic resonance imaging (MRI) device. The priority focus of the Biograph mMR will be to improve the diagnosis and treatment of military service members and civilians suffering primarily from traumatic brain injury (TBI) and post-traumatic stress disorder (PTSD).

The purchase of the imaging technology - developed by Siemens Health Care - was possible through CNRM, which is a Department of Defense-funded collaboration launched in 2008 between the USU and the NIH to carry out research in TBI and PTSD that would benefit the servicemen and -women returning to then-Walter Reed Army Medical Center and the National Naval Medical Center (now Walter Reed National Military Medical Center). Researchers at the NIH Clinical Center will also use the Biograph mMR in studies with patients with other brain disorders, cardiovascular disease, and cancer.

“This scanner combines the two most powerful imaging tools,” said David Bluemke, M.D., Ph.D., director of NIH Clinical Center Radiology and Imaging Sciences. “The MRI points us to abnormalities in the body, and the PET tells us the metabolic activity of that abnormality, be it a damaged part of the brain or a tumor. This will be a major change for many patients.”

The new device makes patient care not only more streamlined, but also swifter and safer. The faster turnaround time and more comprehensive results will help diagnose patients at an earlier stage, leading to more chance of success with treatment. Additionally, traditional PET scanners combine computed tomography imaging, which uses radiation, while the new Biograph mMR does not.

The CNRM works to develop innovative approaches to diagnosis and intervene for the prevention of long-term consequences resulting from traumatic brain injury. Under the Diagnostics and Imaging Program, researchers characterize each patient’s injury to optimize diagnosis and inform the plan of treatment from among the available options.

“A major challenge in the diagnosis and treatment of both military and civilian brain injury patients is the lack of sufficient tools to evaluate the type and extent of injury in a given patient,” said Regina C. Armstrong, Ph.D., director of the CNRM. “We expect the NIH investigators have the expertise to take maximal advantage of this technology by designing novel neuroimaging protocols and molecular probes that can significantly improve how TBI research is performed.”

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About the Uniformed Services University of the Health Sciences (USU): The Uniformed Services University of the Health Sciences is the nation’s federal health sciences university. USU students are primarily active-duty uniformed officers in the Army, Navy, Air Force and Public Health Service who are being educated to deal with wartime casualties, emerging infectious diseases, disasters, and other public health emergencies. The vast majority of the university’s more than 4,700 physician and 500 advanced

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practice nursing alumni are supporting operations in Iraq, Afghanistan and elsewhere, offering their leadership and expertise. For more information, visit www.usuhs.mil.

About the Center for Neuroscience and Regenerative Medicine (CNRM): The CNRM is a Federal medical research program that has transformed collaborative interactions between the USU, the NIH, and WRNMMC. Congress established CNRM in 2008 to bring together the expertise of physicians and scientists at these institutions in the National Capital area to develop innovative approaches to brain injury diagnosis and recovery. The mission of the CNRM is to address the current needs of the medical community to better diagnose and intervene for the prevention of the long term consequences resulting from TBI, particularly in the context experienced by service members in Operation Iraqi Freedom (OIF), Operation Enduring Freedom (OEF) and Operation New Dawn (OND).

About the NIH Clinical Center: The NIH Clinical Center is the 240-bed clinical research hospital for the National Institutes of Health. Through clinical research, clinician-investigators translate laboratory discoveries into better treatments, therapies and interventions to improve the nation's health. For more information, visit <http://clinicalcenter.nih.gov>.

About the National Institutes of Health (NIH): NIH, the nation's medical research agency, includes 27 Institutes and Centers and is a component of the U.S. Department of Health and Human Services. NIH is the primary federal agency conducting and supporting basic, clinical, and translational medical research, and is investigating the causes, treatments, and cures for both common and rare diseases. For more information about NIH and its programs, visit www.nih.gov.

For more information, visit the website <http://BrainInjuryResearch.usuhs.mil>, send an email to CNRMstudies@usuhs.mil, or call 855-TBI-CNRM (855-824-2676).