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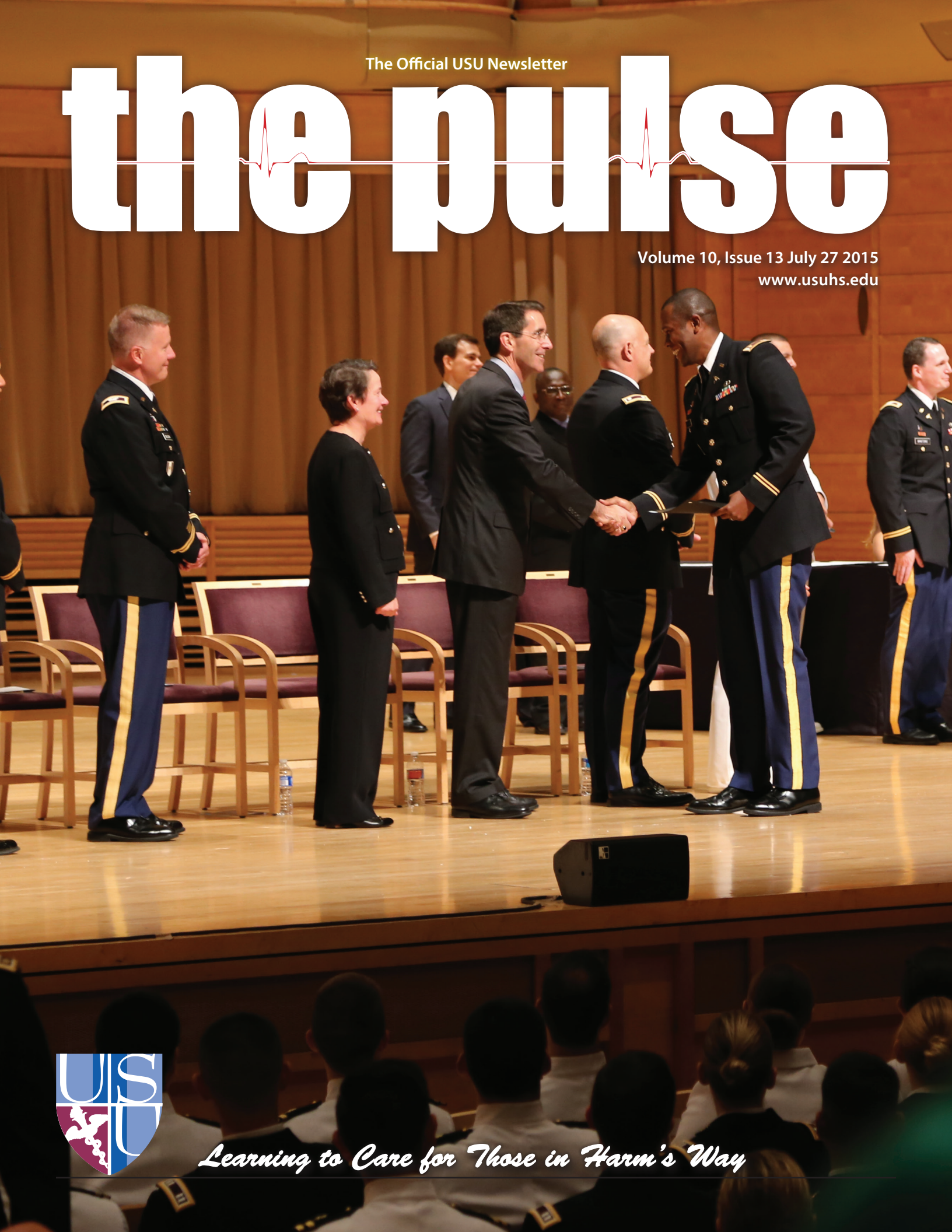

Learning to Care for Those in Harm's Way

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On the cover

Art Kellermann, M.D., Dean of the F. Edward Hébert School of Medicine congratulates graduates at the National Capital Area Joint Service Graduation in Bethesda, Md. June 19. See story, page 6. (Photo by Danielle Snowden)

Risk Factors for Suicide Attempts in Iraq, Afghanistan Identified

Courtesy Article

Risk factors for regular Army suicide attempts by enlisted soldiers and officers in Iraq and Afghanistan have been identified, and socio-demographic factors, length of service, deployment history, and the presence and recency of a mental health diagnosis are among the primary predictors, according to a study published July 8 in JAMA Psychiatry. Enlisted Army service members in their second month of service were at greatest risk for attempting suicide.

The study, "Suicide Attempts in the U.S. Army during the wars in Afghanistan and Iraq, 2004-2009," used data from the Army Study to Assess Risk and Resilience in Service members (Army STARRS), the largest study of mental health risk and resilience ever conducted among U.S. Army personnel.

From 2004-2009, the Army experienced the longest sustained increase in suicide rates relative to the other U.S. military branches. Rates of non-fatal suicide attempts among soldiers rose sharply during this time in parallel with the trend in suicide deaths, yet researchers' understanding of Army suicide attempts remains limited.

Robert J. Ursano, M.D., chair of the Department of Psychiatry and Director of the Center for the Study of Traumatic Stress at the Uniformed Services University (USU), Murray B. Stein, M.D., M.P.H., professor of Psychiatry and Family and Preventive Medicine at the University of California, San Diego, both co-principal investigators for Army STARRS, and a team of Army STARRS researchers, looked at data for more than 1.66 million soldiers who served on active duty from January 1, 2004, to December 31, 2009, which included 975,057 Regular Army soldiers (i.e., excluding those in the U.S. Army National Guard and Army Reserve).

The study found that enlisted soldiers accounted for 98.6% of all suicide attempts (377 per 100,000 person-years) versus 1.4% (27.9 per 100,000 person-years) for officers. Enlisted soldiers had higher odds for a suicide attempt if they were female, had entered the Army at 25 or older, were currently 29 or younger, did not complete high school, were in their first four years of service, and had a mental health diagnosis during the previous month. The risk was highest in the second month of service and declined as the length of service increased. Black, Hispanic and Asian service members had lower risk for suicide attempts. Enlisted soldiers who were never deployed or who had previously deployed were at greater risk for attempting suicide than those who were currently deployed.

Among officers (both commissioned and warrant), who accounted for 141 cases, only socio-demographic characteristics (female, older age at Army entry, younger current age, and low education) and the presence and recency of mental health diagnoses were significant. Female officers who entered the Army at age 25 or older and had a mental health diagnosis in the previous month constituted the greatest risk for suicide attempt. Length of service and deployment status was not associated with suicide attempt among officers.

Researchers also estimate that enlisted women had nearly 13 times the risk of female officers for a suicide attempt, and enlisted soldiers who entered the Army at 25 years or older had more than 16 times the risk of officers in the same group for a suicide attempt. "Suicide attempts have different predictors than suicide," said Ursano. "They identify a group for intervention and preventive care. The 'who is at risk' and when they are at greatest risk can aid development of targeted interventions."

The results represent the most comprehensive accounting of U.S. Army suicide attempts to date and reveal unique risk profiles for enlisted soldiers and officers, and highlights the importance of focusing research and prevention efforts on enlisted soldiers in their first tour of duty.

Grunberg graduates from inaugural PLS

by MC3 Laura Bailey

Neil E. Grunberg, Ph.D., director of leadership research and development and a professor in the department of Military and Emergency Medicine (MEM) at USU, graduated with the inaugural class of the Presidential Leadership Scholars (PLS) program during a ceremony at the George W. Bush Presidential Center in Dallas, July 9, 2015. President George W. Bush and President Bill Clinton spoke at the graduation.

Grunberg began the PLS program, Feb. 2015, along with 59 fellow scholars who were selected from 1,000 applicants. The program selects scholars who demonstrate a desire and ability to strengthen their leadership skills.

Presidential centers of George W. Bush, William J. Clinton, George H.W. Bush and Lyndon B. Johnson formed the program to develop leaders who will increase social good in communities with the purpose of tackling tough societal issues through hard work and bi-partisanship.

Since February, the selected scholars traveled monthly to participating presidential centers around the country. They spent several days studying and discussing various approaches to leadership, developed a network of peers from various backgrounds and exchanging ideas with mentors such as former presidents, key administration officials and leading academicians.

During the course of the program, scholars were also charged with developing a personal leadership project with the intent of implementing and impacting their communities in a meaningful way.

Grunberg's project focused on developing a Leadership Education and Development Summit to address the need to teach medical, nursing and dental students how to lead 21st Century health-care teams, insure patient safety and contain costs. He and collaborators, Dr. Eric Schoomaker and Dr. John McManigle from MEM, hope to hold the first LED summit at USU during the winter of 2016.

The summit will include representatives from U.S. medical schools and health care programs to share philosophies, approaches, and techniques relevant to leadership curriculum. In addition, invitees will include stakeholders, non-health care leadership experts and a few PLS alumni.

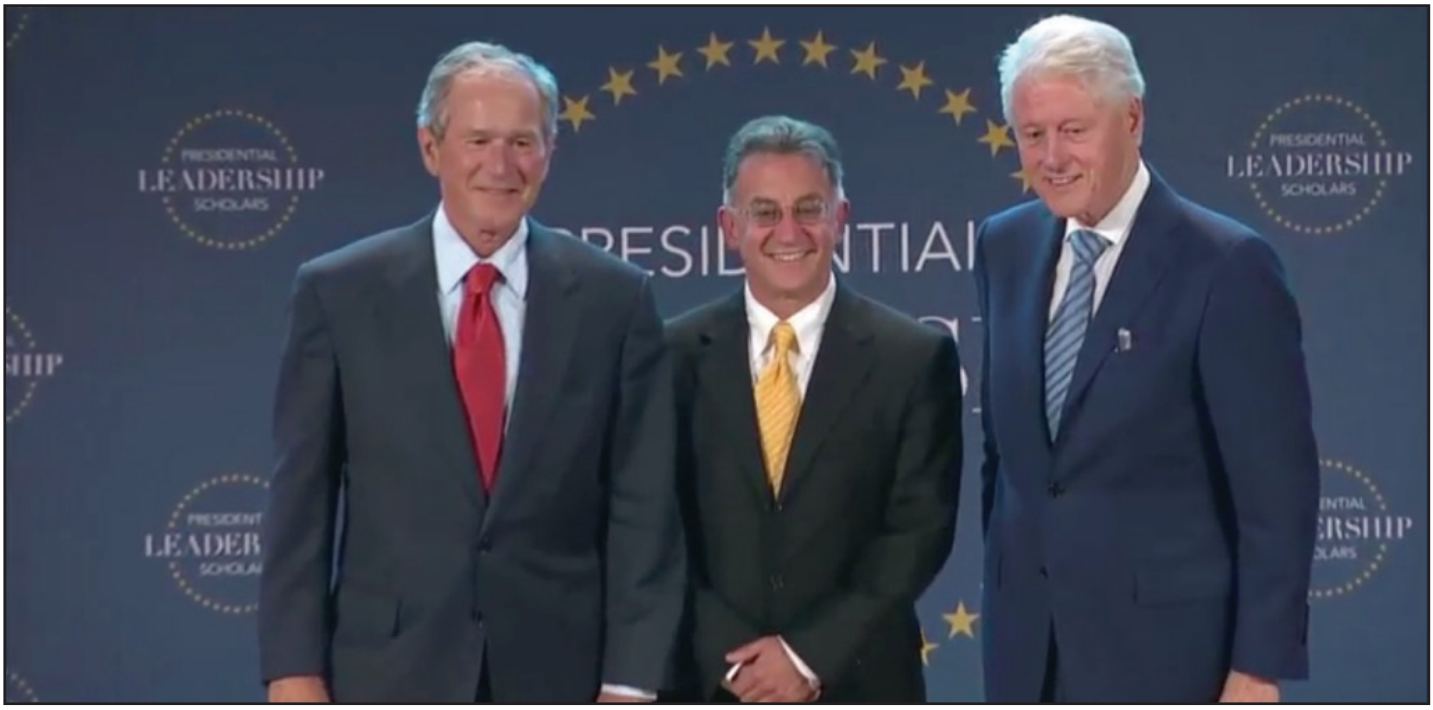
Planning for the project is underway to achieve the long-term goals of sharing health-care leadership curriculum among U.S. healthcare programs and establishing national guidelines of leadership education and training.

Being surrounded by impressive leadership scholars in various fields of expertise proved enlightening to Grunberg in a way he had not expected, he said. When it comes to the task at hand, which for him is to help develop a leadership curriculum at USU, his approach in the past had always been to seek guidance from leaders at other medical schools. His participation in the PLS program has enlighted him to untapped resources by asking for help, listening intently and balancing humility with self-confidence.

"Among the 60 scholars, a dozen of them are in the Washington area," said Grunberg. "We are continuing to work with many of these scholars as well as with several others around the country who have overlapping interests. This network will greatly benefit the USU LEAD program. For example, we are now working with fellow PL scholars who are former special operators, several who have expertise in healthcare and science and communication experts in education as well. These are remarkable and dedicated people. It was an honor to be among this inaugural class of scholars," said Grunberg.

He has brought back what he learned and hopes to share it with faculty, students and staff at USU, he added.

Grunberg remains involved in the program. He and other PLS scholars will attend meetings at the Ronald Reagan Library, in October, and at the John F. Kennedy Library, Oct. 2016. His involvement will also include participation in PLS alumni activities and helping to mentor future scholars.



Director of leadership research and development in the Department of Military and Emergency Medicine, Dr. Neil Grunberg, poses with former presidents George W. Bush and Bill Clinton during a ceremony for the inaugural class of the Presidential Leadership Scholars (PLS) program at the George W. Bush Presidential Center in Dallas, July 9. (Courtesy Photo)

USU only one of four installations nationally to test for MH

By Eric D. Ritter

Uniformed Services University (USU) is currently one of only four facilities in the United States that actively tests for the Malignant Hyperthermia (MH) syndrome. The other three facilities are University of California at Davis, University of Minnesota and Wake Forest.

According to Dr. John Capacchione director of the Malignant Hyperthermia Testing Center in USU's Department of Anesthesiology, MH is an inherited life-threating pharmacogenetic disorder triggered in susceptible patients by certain anesthetic medications.

"Since this is inherited, the patient is predisposed to the condition," Capacchione said. "However, they may not know that they have it. That's why testing for MH is so important. If we identify their condition before a triggering anesthetic can be administered, we will deliver other medications or methods that don't trigger MH. It isn't gender-specific either. Either parent can carry the gene. If that's the case, their offspring have a 50 percent chance of testing positive for it."

Not to be confused with hyperthermia, which is a medical emergency brought on by heat stroke or infection, MH is a genetic condition passed through DNA. Also, the use of malignant in MH is not to be confused with a cancer.

Signs of MH include elevated temperature, elevated carbon dioxide, dark brown urine and muscle rigidity. Treatment during an MH episode includes wrapping the patient in a cooling blanket that helps reduce fever and the risk of other serious complications, and the administration of the medication dantrolene.

Capacchione did go on to add that drugs are not the only triggers for MH. Heat stress can also be a trigger.

"What we've found is that people who are MH-positive are also prone to heat stress," he said. "They can go out and exercise and develop severe muscle pain to the point where their muscles actually die. That can be catastrophic and lethal, because when muscle dies, it releases toxins into the blood stream which can lead to renal failure."

Capacchione then explained why this condition has military relevance.

"We have servicemembers deployed to hot, austere environments who may be carrying better than 50 pounds of gear. This is very important from a readiness perspective. Young, muscular members of the military can develop heat related injuries and then never quite recover. When this occurs, they are often sent to us for an evaluation."

Even though servicemembers can be treated successfully for the condition, it is still a disqualifier for military service. That may make a servicemember hesitant to undergo testing, because it means they will likely be discharged from the service, regardless of how many years of service they have. The fear is that if someone with MH were to have a reaction in the field, the manpower and time it takes to treat that patient would compromise the care delivered to others in a mass casualty scenario.

Capacchione explained that there are only four testing sites primarily due to the high cost of running the MH testing program.

"Fortunately, the ones that are able to continue the testing are spread out over the corners of the country, so they are able to accept patients through referrals."

The program is not funded by the Department of Defense, but rather, for more than 30 years, they have received funding from several outside research grants to conduct the testing, Capacchione said.

Educating non-anesthesia providers about MH is another challenge that they face. There are documented cases of

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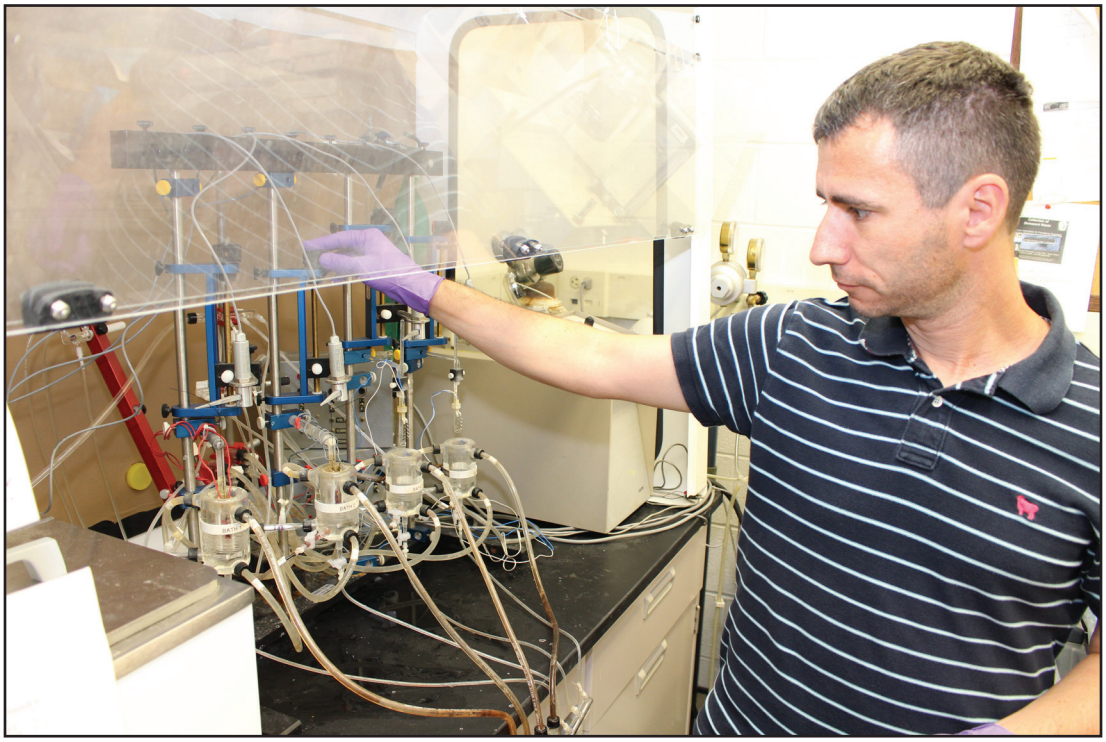

Dr. Peter Dedocz with the USU Department of Anethesiology analyzes data being collected from lab specimens to test for Malignant Hyperthermia (MH). USU is one of only four facilities in the United States that tests for the condition. (Photo by Eric Ritter)

USU continues 101 critical days of summer message

by MC3 Laura Bailey

Whether it's swimming or boating, vacations to distant destinations, or just playing and having a good time with friends and family this summer, the Uniformed Services University of the Health Sciences safety officials to stress the importance of summer safety as we are part of the way through 101 Critical Days of Summer safety campaign.

Each year, the Department of Defense loses between 80 and 100 service members to summer-related preventable mishaps and fatalities, making summer safety a priority across the DoD and at USU.

"Critical Days of Summer is in place for a reason," said Master Sgt. Danny L. Vitek, the safety officer at USU. "Historically, Memorial Day weekend through Labor Day presents greater challenges to the team. Many risk factors are overlooked therefore several preventable mishaps occur every summer. Critical Days of Summer is our tool of choice to help counter those mishaps by being increasing safety awareness."

The theme for this summer is doing the right thing for the right reasons. Things like fastening seatbelts, driving at reasonable speeds, using proper equipment such as flotation devices for water activities are a few examples of putting the theme into practical use.

"The key is to really exercise sound judgment," said Vitek. "When you go for a bike ride, wear a helmet. Put on sunblock when you know you're going to be in the sun for even short periods of time. Drink water continuously through the day and take extra for extended events like hiking. It's the simplest things that can keep you safe, prevent injuries and even keep you and your families alive. Stop for a moment and consider all risks related to the activity you are about to engage in and then exercise your best judgment."

Take care of each other, he added.

"Let's say your battle buddy is barbequing inside the garage because of a little rain outside. What should you do?" said Vitek. "Well, for starters you should probably remind them about the Critical Days of Summer and throw out a simple question. Where might the smoke go? Then your buddy says "You're right," and moves it back outside, you prevented a mishap or even death, right? It's that easy. The point is to speak up. It is better to be a little uncomfortable providing advice than extremely uncomfortable with regret.

"The summer should be a time for making good memories with family and friends, not a time to suffer loss," said Dr. Charles Rice, president of USU. "I want everyone at USU to enjoy the summer, but take extra care to come back to us safe. We are halfway through the summer with zero fatalities. I'm sure they're already practicing summer safety. I implore those who are to continue doing so – and then some. Practicing summer safety is the responsibility of each of us whether on or off-duty. Remember, it's difficult to learn to care for those in harm's way when you are in harm's way yourself. Let's finish the summer strong."

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non-anesthesia-related awake manifestations of MH that have presented to Emergency departments, said Capacchione.

"ED physicians have treated these events as presumed cases of febrile seizures. During airway management and rescue, one of the medications routinely given is an actual MH-triggering agent. If we have ED physicians who are educated in what to look for, we can potentially avoid putting a patient at further risk. This is something that we need to get into the non-anesthesia medical literature so that everyone is educated."

As busy as they are testing presumed MH susceptible patients, they're just as busy ruling the diagnosis out in many cases. Capacchione states that sometimes patients are misdiagnosed, and it's important to get that corrected because the MH label remains with the patients and their families for life.

Education is also key to the general public. If a person recognizes that any member of their family has ever had any of the symptoms associated with MH, they should get themselves tested. Capacchione said if they do come back positive for MH, they can work on getting that individual a medical alert bracelet to let responders and doctors know of the condition in an emergency situation. Testing at USU isn't just for servicemembers either. The MH testing team has collaborative efforts with other organizations internationally and locally like the Childrens National Medical Center (CNMC) in the District of Columbia. Civilians can undergo the diagnostic MH muscle biopsy at CNMC, while the actual muscle testing procedure is performed at USU.

The USU MH testing team isn't just working on identifying those with MH. According to Department of Anesthesiology research assistant professor, Dr. Saiid Bina, who is also a primary member of the MH team, research in the field has come a long way since he began working on the program back in the early 1980s at USU.

"I have seen so much progress in technology that has helped us with research here," Bina said. "The data was originally collected with bulky equipment and large rolls of printed paper. Now, everything is compacted and digital, which cuts down the time needed to analyze the data."

Bina is also credited with developing a new blood test that can potentially detect MH without requiring the standardized invasive muscle biopsy from a patient's lateral thigh.

Capacchione concluded that as long as the MH testing program continues at USU, they will continue to work toward helping the military and public with treatment and education that will ultimately help save many lives.

National Capital Consortium, WRNMMC graduate interns, residents, fellows

by Sharon Holland

Army, Navy, and Air Force medical, dental and administrative officers received certificates of completion during the National Capital Area Joint Service Graduation Ceremony, June 19.

The ceremony, held at the Strathmore Music Center in north Bethesda, celebrated the successful end of postgraduate training for 76 interns, 128 residents, and 58 fellows in the National Capital Consortium and Walter Reed National Military Medical Center graduate medical education programs.

Art Kellermann, M.D., dean of the Uniformed Services University of the Health Sciences' F. Edward Hébert School of Medicine, presided over the ceremony along with Rear Adm. (Dr.) Raquel C. Bono, director of the National Capital Region Medical Directorate. Jerri Curtis, M.D., the NCC's Designated Institutional Official and associate dean for Graduate Medical Education, USU, Army Col. (Dr.) Brian M. Belson, director for Education, Training and Research at Walter Reed Bethesda, and Army Col. (Dr.) Clifton E. Yu, director of Graduate Medical Education at Walter Reed Bethesda, also participated in the ceremony.

USU School of Medicine alumnus ('99) Army Col. (Dr.) Robert Mabry was guest speaker for the ceremony, telling graduates that courage informs and strengthens all other leadership characteristics, particularly when it comes to their military careers.

"You have to show some career courage. Aristotle called courage the first virtue, because it makes all of the other virtues possible. In addition to being the most important human virtue, it is the most important military virtue as well. Think about it. Concepts like leadership, innovation, and change wither in the absence of courage. Leadership takes making bold and often unpopular decisions. Innovation involves creating groundbreaking, but tradition-defying, ideas. Innovation takes courage. Change take courage. Challenging the status quo takes courage. Leadership takes courage," said Mabry.

"The NCC graduation is always an inspiring event. It marks the moment when the future leaders of the military medical corps make the transition from trainee to practitioner," said Kellermann. "It is the culmination of many years of hard work for the graduates and their families alike. Their sense of pride and excitement about the future is palpable."

Art Kellermann, M.D., Dean of the F. Edward Hébert School of Medicine, addresses the crowd of medical, dental and administrative graduates at the National Capital Consortium, WRNMMC graduation in Bethesda, Md. June 19. (Photo by Danielle Snowden)

Recruits show lower immunity levels to measles, mumps, rubella

by Sharon Holland

The percentage of U.S. Air Force recruits with detectable immunity to measles, mumps and rubella was lower than found in previous nationwide samples and may be low enough for outbreaks to occur, according to a study, "Measles, Mumps, and Rubella Titers in Air Force Recruits: Below Herd Immunity Thresholds?" released July 7, in the American Journal of Preventive Medicine.

In 2014, the CDC reported more than 600 measles cases -- the most since 2000, when the virus was declared eliminated in the U.S. Additionally, more than 1,150 cases of mumps were reported in 2014, an increase to previous years, with most occurring on college campuses nationwide in individuals previously vaccinated for the disease.

Researchers at the Uniformed Services University of the Health Sciences, Defense Health Agency, and Joint Base Lackland-San Antonio, led by Air Force Lt. Col. (Dr.) Paul E. Lewis, III, USU Department of Preventive Medicine and Biometrics (now with the Armed Forces Health Surveillance Center), studied more than 32,500 recruits in basic training between April 2013 and April 2014 to determine whether there were a sufficient number of recruits with immunity to prevent an outbreak. They found that the percentage with adequate antibodies to measles, mumps, and rubella were 81.6%, 80.3%, and 82.1%, respectively. These are generally lower than levels required to maintain herd immunity.

According to the study, the minimum level required to maintain immunity to disease outbreak in the general population is referred to as 'herd immunity.' Military recruits are at increased risk for communicable diseases given close living and sleeping quarters and weakened immune systems secondary to fatigue and stress. Many are sent to overseas locations where the likelihood of exposure is elevated. Antibody titers are obtained for six diseases on all new recruits entering Air Force basic training, and the service members are vaccinated for any of those six diseases for which they show no immunity. Department of Defense immunization policy recommends presuming mumps immunity if measles and rubella titers are positive, however the mumps component of the MMR vaccine is the least effective and tends to wane the fastest, so the presumption may lead to below-herd immunity thresholds.

"If individuals entering the workforce and college across the nation have the same rates as the recruits, outbreaks of vaccine-preventable disease can be anticipated to continue," said Lewis.

The study recommends obtaining antibody titers from recruits for mumps in addition to the measles and rubella, and vaccinating all individuals susceptible to one or more of the viruses.

GME Graduates Earn NCC, WRNMMC Awards

by Sharon Holland

Each year the National Capital Consortium and the Walter Reed National Military Medical Center present a variety of awards during the National Capital Area Joint Service Graduation Ceremony for interns, residents and fellows. This year, the following awards were presented:

The Bailey K. Ashford Award for clinical research was presented to Navy Lt. Donald J. Lucas, a general surgery resident. The Bailey K. Ashford Award for laboratory research was presented to Army Maj. (Dr.) Elizabeth Polfer (USU '09), an orthopaedic surgery resident. The award is presented to the Walter Reed Bethesda house staff member judged to have accomplished the most outstanding research during training.

The Robert A. Phillips Award recognizes the outstanding individual research projects in both staff/fellow and resident categories presented during the annual National Capital Region Military Research Competition. The award was given to Air Force Capt. (Dr.) Katherine E. Shedlock, Pediatrics, for Resident Clinical Study; Army Maj. (Dr.) David C. Hostler, Pulmonary and Critical Care, for Fellow Clinical Study; Army Capt. (Dr.) Kyle T. Packer, Ophthalmology, for Resident Laboratory Study; Dr. Roopa Biswas, assistant professor, USU, for Staff Laboratory Study; and poster winners Army Maj. (Dr.) Elizabeth Polfer, Navy Cmdr. (Dr.) Mark Fleming, Orthopedic Surgery, and Air Force Capt. Shannon D. Pierce, a critical care nurse.

The Walter Reed National Military Medical Center Outstanding Intern Award was presented to Navy Lt. (Dr.) Alison Lane, Internal Medicine. Navy Lt. (Dr.) Michael M. Dore, also in the Internal Medicine service, was the recipient of the Lieutenant Neil Holland Award for the WRNMMC house staff member who best exemplifies excellence in teaching and humanitarianism, ability as a clinician, instructor, counselor and mentor. Army Capt. (Dr.) Nathanial R. Miletta, Dermatology Service, and Navy Lt. Cmdr. (Dr.) Melissa S. Butts, Rheumatology Service, earned the General Graves B. Erskine Award as the outstanding resident and fellow. Army Maj. (Dr.) Robert J. Walter, Sleep Medicine Service, was presented the Major General Lewis A. Mologne Award for outstanding demonstration of commitment to patient care, and the greatest respect for truth, honesty and dedication in the practice of medicine. The Vice Admiral James A. Zimble Award was presented to Army Col. (Dr.) Michael K. Rosner, Neurosurgery, for his contributions and dedication to, and interest in, teaching, as well as his demonstrated scholarly activities including publications, invited lectures, membership and/or fellowship in national and/or international societies.

The Walter Reed National Military Medical Center Outstanding Faculty Award and Staff Physician Teacher of the Year Award were presented to Army Maj. (Dr.) John D. Betteridge, Gastroenterology Service, and Army Lt. Col. (Dr.) Joshua Hartzell (USU '02), Infectious Disease Service, respectively. Army Maj. (promotable) (Dr.) Joseph G. Cheatham, Gastroenterology, and Navy Capt. (select) (Dr.) Timothy J. Whitman, Infectious Diseases, both received the Lieutenant General Claire L. Chennault Award which is presented to faculty who best demonstrate overall excellence, professional medical expertise and personality traits of innovativeness, fairness, leadership and tenacity in the face of adversity.

The Lieutenant General Claire L. Chennault Award for Outstanding Psychiatry Faculty was presented to Dr. Jennifer J. Weaver, Psychiatry Service, for her excellence in teaching, supervising, mentoring, research and leadership, and who has the most capably and devotedly contributed to the advancement of Graduate Medical Education psychiatry training programs.

Army Lt. Col. (Dr.) Catherine A. Kimball-Eayrs, (USU '99) Pediatrics Service, received the Graduate Medical Education Mentor Award. The award is presented to a WRNMMC/NCC faculty member who has a profound impact on an individual or group of individuals as a mentor.

The Innovative Curriculum Award was presented to Pediatrics faculty member Army Maj. (Dr.) Jennifer Hepps. The award is given to the WRNMMC/NCC faculty member who has developed a GME curriculum that significantly improves resident education or patient outcomes.

Last, the Silver Caduceus/Gold Twig Award, presented to the outstanding Medical Service Corps officer graduating from a long-term health education training program, was presented to Army Maj. Rosalinda Uy, oncology pharmacy, for her demonstrated professionalism that exemplified the values of loyalty, duty, respect, selfless service, honor, integrity and personal courage.

A recipient of one of the NCC/WRNMMC graduate medical education awards is congratulated by Navy Rear Adm. (Dr.) Raquel Bono, director of the National Capital Region Medical Directorate. (photo by Danielle Snowden)

Final Frame

Supply Staff Sgt. Eva Ilias, a staff member at the Uniformed Services University of the Health Sciences (USU), receives a Master Fitness Training course (MFTC) completion certificate from Maj. David Feltwell, a lead MFTC instructor and physical therapist at the U.S. Army Physical Fitness School, Fort Jackson, S.C., during a certificate presentation at USU, July 23. The MFT is an additional skill identifier that allows soldiers with the MFT certificate to assist commanders in designing and teaching physical readiness programming for their units. Seven faculty members at USU and three students from the F. Edward Hebert School of Medicine participated in this event as a part of their Summer Operational Experience.(photo by MC3 Laura Bailey)