Navy and Marine Corps
Medical News

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MEDNEWS Items of Interest

October marks "Navy Medicine's Focus on Research and Development." This month highlights Navy Medicine's research and development capabilities and initiatives. Navy Medicine's robust research, development, test, and evaluation (RDT&E) global footprint forms an enterprise that is the Navy's and Marine Corps' premier biomedical and dental research and bio-surveillance organization with over 1,500 dedicated professional, technical and support personnel who focus on force health protection and enhanced deployment readiness to DoD personnel worldwide.

Navy Weeks 2011
Navy Medicine will be participating in Navy Week San Antonio (Oct. 24-30). For more information on Navy Weeks go to www.NavyWeek.org

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Did You Know?

Navy Medicine has eight Naval medical research centers, labs, or units spanning four continents that conduct basic and applied research in infectious diseases; biological defense; combat casualty care; military operational and expeditionary medicine; bone marrow transplantation; aviation medicine and medical standards; and diving and environmental medicine.

First MRIs arrive in theater

By U.S. Navy Bureau of Medicine and Surgery Public Affairs

WASHINGTON - The top doctor for the U.S. Navy and Marine Corps announced the delivery of two mobile Magnetic Resonance Imaging (MRI) systems to Afghanistan Oct. 4-7.

Navy Surgeon General Vice Adm. Adam M. Robinson Jr. said that the delivery marked the end of an unprecedented medical equipment procurement initiative to deliver a first-ever MRI capability to a combat theater.

The first mobile MRI system arrived on a mega-cargo Antonov AN 124 Russian aircraft Oct 4. Weighing more than 70,000 pounds, the MRI and its accompanying supplies were unloaded using a prime mover, two flatbeds, and a forklift to travel to its final destination at the Role 3 hospital at Camp Bastion. A second MRI was delivered to the Role 3 hospital in Kandahar Oct 7, and progress continues on both systems for final installation, prepping and testing.

"Fielding MRIs into active combat theaters is unprecedented as both logistics and clinical procedures had to be created," said Robinson. "The fact that our team was able to design, acquire and deliver this new capability to the battlefield in less than 12 months is a testament to the commitment and creativity of the joint medical and logistics teams."

Throughout the procurement process, BUMED worked closely with Army and Air Force Medical Departments to address every element involved in fielding this battlefield MRI capability which included resolving engineering, logistical and technical issues while also working the challenges of transportation, personnel, training, shielding and sustainment

See MRI, Page 3

Photo by Sgt. Mitch Moore, Regional Command Southwest/Released

CAMP LEATHERNECK, Afghanistan - An AMK-31 vehicle drives off the ramp of an Antonov 124-100M aircraft at Joint Operating Base Bastion, Afghanistan, in the early hours of the morning to deliver a Magnetic Resonance Imaging (MRI) machine to the Role 3 Medical Facility at Bastion, the first of its kind in theater, Oct. 5.

Navy Medicine focuses on research and development

As I prepare to say farewell as your 36th Surgeon General, I'd like to focus this month on a topic that is near and dear to my heart. As I've said throughout my tenure, research and development is crucial to our mission because, more often than not, our medical innovations derive from an idea or experiment in one of our laboratories. Researchers and scientists epitomize the spirit of interdisciplinary scholarship, innovation, and entrepreneurship that lead to translational advancements in critical areas.

Today we have eight Naval medical research centers, labs, or units spanning four continents that conduct basic and applied research in infectious diseases; biological defense; combat casualty care; military operational and expeditionary medicine; bone marrow transplantation; aviation medicine and medical standards; and diving and environmental medicine. I am also very proud of the bi-lateral agreement and memorandum of understanding for military medical partnerships we recently signed with the Vietnamese Ministry of Defense. Here is a snapshot of Navy Medicine's global research enterprise:

• **Naval Medical Research Center – Silver Spring, Md.** serves as our headquarters, focusing on solutions to operational medical problems such as battlefield neurotrauma and wounds, decompression sickness, naturally occurring infectious diseases, biological threat agents and bone marrow injury research.

• **Naval Health Research Center – San Diego, Calif.** works closely with operational units by conducting medical modeling and simulating analysis; monitoring the effects of combat exposure on psychological health; managing career-span deployment health & readiness programs, improving warfighter performance, and assisting in the implementation of military-specific HIV-prevention.

• **Naval Submarine Medical Research Laboratory – Groton, Conn.** conducts research into undersea human systems integration, submarine survival and rescue, diver bio-effects, hearing conservation, and situational awareness. They work in concert with the Naval Undersea Warfare Center, Naval Medical Center San Diego, NASA, NAVSEA, Naval Expeditionary Diving Unit, and the U.S. Army Research Institute of Environmental Medicine among others.

• **Naval Medical Research Unit – San Antonio, Texas** conducts medical, dental, and directed energy biomedical research to enhance the health, safety, performance and operational readiness of Navy and Marine Corps personnel as well as addressing emergent medical and dental problems in routine and combat operations.

• **Naval Medical Research Unit – Dayton, Ohio** conducts research in acceleration effects, aviation medical standards and personnel selection, physiological and cognitive effects of altitude, vision research, pulmonary health effects, neuro-toxicology/ neuro-behavior, reproductive health and systems biology.

• **U.S. Naval Medical Research Unit 2 Pacific – Pearl Harbor, Hawaii** conducts infectious disease research and surveillance in South Asia and Southeast Asia. Current studies include respiratory disease surveillance, malaria drug resistance, novel vector control measures and dengue cohort monitoring.

• **U.S. Naval Medical Research Unit 3 – Cairo, Egypt** conducts infectious disease research and surveillance in the Middle East, Southwest Asia, Africa and Eastern Europe. Current studies focus on influenza-like illness, acute febrile illness, diarrheal diseases, hemorrhagic fever, HIV, meningitis and infection control.

• **U.S. Naval Medical Research Unit 6 – Lima, Peru** conducts infectious disease research and surveillance in South America including prevention strategies, clinical trials, chemotherapeutics, diagnostics, epidemiology, and ecology. Researchers partner with the Peruvian Army and Navy, prestigious universities like Cayetano-Heredia and San Marcos, the Ministry of Health, USAID, CDC, NIH and several American universities.

Our robust research, development, test, and evaluation (RDT&E) global footprint forms an enterprise that is the Navy's and Marine Corps' premier biomedical and dental research and biosurveillance organization with over 1500 dedicated professional, technical and support personnel who focus on force health protection and enhanced deployment readiness to DoD personnel worldwide. The diverse capabilities and geographical distribution of our laboratories reflect the broad mission and vision of our R&D community. We direct our efforts towards operational medicine and readiness through partnerships with other government agencies, host countries, academia, and private industry to share technology and knowledge to enhance global health.

Our work is held in high esteem by the U.S. and international scientific community. Hundreds of presentation and publications are submitted and accepted each year, and our work is frequently featured in the world's leading peer-reviewed scientific journals and at international conferences.

It is my honor to represent you as your Surgeon General. Thank you for everything you do, but most of all, thank you for your service.

Vice Adm. Adam M. Robinson, Jr.,
U.S. Navy Surgeon General

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Navy Medicine forms research partnership

From Office of Naval Research Public Affairs

ARLINGTON, Va. - Influential leaders from the medical and research communities held high-level discussions on biomedical science and technology (S&T) initiatives at the Office of Naval Research (ONR) Sept. 16.

"ONR's relationship with Navy Medicine is very important, most visibly with the Marine Corps component because of the physical demands required on the battlefield," said Chief of Naval Research Rear Adm. Nevin Carr. "This meeting of the minds allowed us to engage on a wide range of topics. We had an opportunity to align our thoughts on delivering cutting-edge medical solutions to warfighters."

The one-day event featured a lineup of dynamic senior Navy leaders, including Navy Surgeon General Vice Adm. Adam M. Robinson Jr. and Rear Adm. Matthew Nathan, commander of Navy Medicine National Capital Area and the Walter Reed National Military Medical Center in Bethesda, Md.

ONR has a successful track record of providing Sailors and Marines with medical advancements. Most recently, a breakthrough was made in undersea medicine regarding a new capability for examining how cells work at pressures far below the sea surface. This innovative "patch clamping" technique bridges a gap to understanding and identifying potential applications to guard against decompression sickness during military diving operations.

Medical S&T efforts at ONR are executed under the organization's Force Health Protection (FHP) research portfolio. FHP initiatives include developing new practices, procedures, medical devices and pharmaceuticals for improved personnel performance; casualty prevention; fatigue countermeasures; and combat casualty care.

Photo by John F. Williams/Released

ARLINGTON, Va. - Chief of Naval Research Rear Adm. Nevin Carr, right, welcomes Navy Surgeon General Vice Adm. Adam M. Robinson Jr. and Rear Adm. Matthew Nathan, commander of Navy Medicine for the National Capital Area and commander, Walter Reed National Military Medical Center, Bethesda, Md., to the Office of Naval Research (ONR) in Arlington, Va., for an exchange of ideas as part of an ONR biomedical science and technology program overview.

"This joint opportunity positions ONR to move forward together with the Navy and other medical stakeholders that are essential to improving the future health and fitness of the Navy and Marine Corps," said Dr. Terry Allard, ONR's director of warfighter performance.

In the coming weeks, ONR researchers will continue their medical S&T dialogue with Nathan, who has been tapped to become Robinson's replacement as Navy surgeon general.

The Department of the Navy's Office of Naval Research provides the science and technology necessary to maintain the Navy and Marine Corps' technological advantage. Through its affiliates, ONR is a leader in science and technology with engagement in 50 states, 70 countries, 1,035 institutions of higher learning and 914 industry partners. ONR employs approximately 1,400 people, comprising uniformed, civilian and contract personnel, with additional employees at the Naval Research Lab in Washington, D.C.

MRI

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requirements simultaneously.

Naval Medical Logistics Command (NMLC) was tasked by Robinson with spearheading the procurement and sustainment issues for this initiative. NMLC developed an acquisition strategy that was able to reduce procurement time and address multiple logistics issues in seven months as opposed to the normal 12 to 18 months for a typical MRI system procurement. Headquartered at Fort Detrick, Md., NMLC is the center of logistics expertise for Navy Medicine and designs, executes and administers state-of-the-art solutions to meet customer's medical material and healthcare needs.

According to NMLC commanding officer Capt. James B., Poindexter III, the Navy worked closely with its sister services to field this unique MRI capability for U.S. and coalition forces in Afghanistan as part of the overall comprehensive approach to diagnosing and treating concussive injuries.

"This was a complex and extraordinary acquisition issue and our team worked hard to field this equipment as soon as possible while ensuring it would do the job we intended it to do," said Poindexter. "Taking care of our men and women in uniform close to the battlefield is our top priority."

Poindexter stated that the acquisition endeavor which began in January 2011 was a massive undertaking in coordination with NMLC and its technical and operational partners that included the U.S. Navy Bureau of Medicine and Surgery (BUMED), U.S. Army Medical Material Agency, Task Force Medical-Afghanistan, Central Command, Office of the Joint Chiefs of Staff, Air Force Medical Logistics Office, National Intrepid Center of Excellence, Walter Reed National Military Medical Center-Bethesda, and the Army's Rapid Equipping Force.

Navy Medicine headquarters hold flu SHOTEX

By Shoshona Pilip-Florea, U.S. Navy Bureau of Medicine and Surgery Public Affairs

WASHINGTON - With the 2011 flu season approaching, Navy Medicine headquarters emphasized the importance of getting vaccinated by conducting an influenza immunization exercise (SHOTEX) for its personnel, Oct. 5.

The SHOTEX was held at U.S. Navy Bureau of Medicine and Surgery (BUMED) as the command partnered with the Joint Task Force National Capital Region Medical (JTF CapMed) immunization team to administer nearly 250 vaccinations to BUMED, active duty and civilian personnel.

"The seasonal flu vaccine this year will have the H1N1 strain plus other strains in the one vaccine, so there will be one shot that people will have this year to be vaccinated," said Cmdr. Danny Shiau, deputy director for Emergency Preparedness at BUMED. "It's important for all the active duty personnel to realize that the single best way to prevent the flu and ensure mission readiness is to get vaccinated."

Photo by Mass Communication Specialist 2nd Class Shannon E. Renfroe

WASHINGTON - Chief of Naval Operations (CNO) Adm. Jonathan Greenert receives his annual flu vaccine at the Pentagon, Sept. 27.

According to NAVADMIN 207/11, it is mandatory for all active duty service members to receive the flu vaccine. For most service members under 50 years of age, there is a choice between the traditional flu shot or the flu mist administered through the nasal cavity.

BUMED's SHOTEX also included nearly 100 civilian employees. Although it is not mandatory for civilians to receive a vaccination, it is highly encouraged especially for those who work in the health care field. Vaccinations administered during official command SHOTEX's are done so at no charge to DoD civilians.

In addition to receiving the vaccine, Shiau recommended other methods to limit the effects of the seasonal and H1N1 flu: cover your mouth when you cough; cover your mouth with a tissue to reduce the spread of germs; wash your hands often; avoid touching your eyes, nose or mouth; and if possible, stay home from work, school and errands when you are sick.

"The flu can seriously affect mission readiness, so we'll be monitoring the seasonal flu virus carefully over the coming weeks and months and will be proactive in developing contingency plans to address any public health issues if required," said Shiau.

SLEEP KEY TO EFFECTIVE WARFIGHTERS

By Capt. Elizabeth Montcalm-Smith, Program Manager, Naval Medical Research Center Advanced Medical Development Program

The work done by the Advanced Medical Development Program represents advanced research and testing. This office looks for solutions for the warfighter by improving existing mature technology that can be adapted to meet warfighter requirements and is easily produced and affordable. A great example is the Warfighter Sleep Kits, a product being field tested now.

Daily stress, shift work and other distractions can make it difficult to get the recommended eight hours of sleep at night. The kits were created in response to a compelling need to do more sleep education for deployed warfighters. The Warfighter Sleep Kit includes information to educate service members on the impact of sleep on mission effectiveness and tools and techniques to help get adequate sleep. Short-term effects of inadequate sleep include decreased coordination and motor skills, inability to concentrate, impaired learning and decreased decision-making ability. Long-term effects of inadequate sleep can lead to high blood pressure, obesity and cardiovascular disease.

The sleep kit contains:

- A pocket-sized guide containing essential facts on sleep
- A sleep mask to help block environmental light
- Ear plugs to help block ambient noise

Warfighter Sleep Kits An interactive DVD that includes:

- AMMO Lite – a personal "sleep diary" that allows the user to estimate his/her operational readiness based on a sleep schedule
- A Sleep Assessment Program that helps identify common sleep issues, with tools that may help resolve the issues
- Warrior Mind Training videos – progressive relaxation and behavioral techniques to assist in falling asleep Information on shift work, the physiology of sleep and more.

The kit is sponsored by the Naval Medical Research Center (NMRC) as part of the Comprehensive Alertness Management in Military Operations initiative from the Defense Safety Oversight Council.

Courtesy photo

The Warfighter Sleep Kit includes information to educate service members on the impact of sleep on mission effectiveness and tools and techniques to help get adequate sleep.

Navy Medicine welcomes new Hospital Corps director

By Valerie A. Kremer, U.S. Navy Bureau of Medicine and Surgery Public Affairs

BETHESDA, Md. - Navy Medicine welcomed a new force master chief and director of the Hospital Corps during a change of charge ceremony held at the Walter Reed National Military Medical Center Bethesda (WRNMMCB), Oct. 5.

Force Master Chief and Dirctor, Hospital Corps, Laura A. Martinez, U.S. Navy Bureau of Medicine and Surgery (BUMED) was relieved by Master Chief Hospital Corpsman Sherman E. Boss, formerly the command master chief at Navy Medicine National Capital Area and WRNMMCB.

"Thank you for being the force behind the force," said Martinez. "Our successes and challenges are too numerous to list, but today with each of you I celebrate the successes and I know as I leave you will continue to work the challenges with the same dedication and passion you've always shown."

U.S. Navy Surgeon General, Vice Adm. Adam M. Robinson presided over the ceremony. In his remarks, Robinson discussed the importance of commitment and service.

Robinson also reflected on Martinez's accomplishments as being a vital part of Navy Medicine's history. In particular, he highlighted Martinez's role in the establishment of the Medical Enlisted Training Campus (METC), San Antonio, Texas, and the legacy she will leave behind.

"Martinez focused on putting the Sailor first," said Robinson. "Through her hard work, sacrifice, and dedication, countless young men and women will be educated and trained at METC in the coming decades who will then go on to provide medical support around the world to our men and women in the air, at sea, on land, and on the battlefield."

As a time honored tradition during the ceremony, Martinez transferred the cutlass to Boss, representing the official change of charge.

During her remarks, Martinez said words of encouragement to Boss as he also takes over as the director of the Navy Hospital Corps.

"The state of the Hospital Corps is strong," said Martinez. "Nearly six out of ten prospective Sailors in recruiting stations ask to be a Hospital Corpsman and wear the caduceus of the Corps. I am certain with your leadership and dedication, you will successfully guide and serve the most decorated Corps in the U.S. Navy."

Photo by Valerie A. Kremer, U.S. Navy Bureau of Medicine and Surgery Public Affairs/Released

BETHESDA, Md. - Navy Color Guard presents colors during a change of charge ceremony as Force Master Chief and Director, Hospital Corps, Laura Martinez, U.S. Navy Bureau of Medicine and Surgery, was relieved by Master Chief Hospital Corpsman Sherman E. Boss, formerly the command master chief at Navy Medicine National Capital Area and WRNMMCB. The ceremony was held at the Walter Reed National Military Medical Center Bethesda, Oct. 5.

After receiving the cutlass from Martinez, Boss addressed all hands for the first time in his new role.

"Right now, I stand in awe of greatness," said Boss. "I make a promise to you to focus on the Sailor, and focus on the mission. I look forward to the tasks that lie ahead."

Boss, a Florida native, with more than 28 years in his naval career, has served during multiple tours and comes with many distinguished awards. Most recently, Boss has played a significant role as command master chief during the BRAC integration of Walter Reed Army Medical Center Washington, D.C., and the National Naval Medical Center, Bethesda, Md., into WRNMMCB.

Photo by Senior Airman Sandra Welch/Released

KHOST PROVINCE, Afghanistan - Hospitalman Francis Colon, assigned to Naval Hospital Okinawa, Japan, and deployed supporting Provincial Reconstruction Team (PRT) Khost, checks a girl's temperature during an Afghan-led medical screening at a Khost City orphanage, Oct. 1. More than 120 orphans were seen by Afghan and PRT medical teams. PRT Khost is a Navy-led team of more than 85 Sailors, Soldiers, Airmen and civilians assisting the Khost provincial government.

BUMED appoints new special emphasis program managers

Special Emphasis Program coordinator/manager positions were established to assist agencies in assuring that equal opportunity is present in all aspects of employment and that affirmative action is being taken to address under-representation.

The programs focus on techniques to evaluate management policies, practices and procedures to identify and eliminate employment barriers to the target group.

Three special emphasis program areas are specifically required by regulation: the

Hispanic Employment Program, the Federal Women's Program and the Program for People with Disabilities. Federal agencies may also identify additional program areas which require special emphasis such as the Black Employment Program, the Asian/Pacific Islander Program (APIP) and the Native American Indian Program.

The Navy Bureau of Medicine and Surgery recently appointed its new special emphasis program managers:

Rochelle L. Jones, the Program for People with Disabilities - Jones works at the Naval Health Clinic Quantico, Va., as the human resources liaison assistant and credentials coordinator assistant since 2007. During her three-year tenure at the command, she has worked as the command information desk clerk and interim contract administrator. Currently Jones serves as a functional member of the Command Training Team as an EO instructor. In her role as a special emphasis program manager, she hopes to open doors that have been closed and remove barriers that have been created, preventing individuals with disabilities a fair chance to the employment opportunities that are available to everyone.

Mrs. Nancy A. Serchuk, the Federal Women's Program and Gay, Lesbian and Transgender Program - Serchuk is an Army veteran with a degree in Aeronautics and over 25 years of federal service. She has managed an international military airfield, worked as a program manager in Manpower and Finance, was a program activities creator, publisher and director for an Adult Day Care Center, and a human resource specialist. Serchuk has an extensive background, which includes working globally and domestically with diverse and multicultural staffs in non-appropriated and appropriated funded positions. She has been employed by the Navy as a human resources liaison for the past five years at the Naval Health Clinic Quantico, Va.

Dr. Wesley Thomas, the Black Employment Program - Dr. Thomas is a general dentist at the Branch Health Clinic, Washington Navy Yard, D.C. He completed his general practice residency training at the Bronx Lebanon Hospital Center in the Bronx, N.Y. He received his dental school training at the University of Connecticut School of Dental Medicine and undergraduate training at Morehouse College in Atlanta, Ga. Dr. Thomas also serves on the Board of Directors of a community Whitman Walker Health clinic in Washington D.C.

Melissa Cherry, Hispanic Employment Program - Cherry works at Navy Medical Information Systems Support Activity as the AHLTA Sustainment Training/CHCS Program Manager with over 10 years of past civil service experience with the Army and Department of Veterans Affairs as a program manager and information technology (IT) specialist. She possesses over 20 years of IT experience having completed graduate and post-graduate coursework in IT. She hopes to provide valuable input as a special emphasis program manager.

Navy Medicine demographic chartbook available

By Victor Pawelzik, U.S. Navy Bureau of Medicine and Surgery Program Analysis and Evaluation (M81)

WASHINGTON - Navy Medicine's Program Analysis and Evaluation (M81) office announced the completion of its first Chartbook, Oct. 12.

The Chartbook features the demographics and clinical information of all beneficiaries residing around Navy Military Treatment Facilities (MTFs), including beneficiaries enrolled to the MTFs and those who are not enrolled but are otherwise eligible to receive care at the MTF.

The document is intended to inform Navy Medicine decision-makers about the status of the Navy Military Health System and its beneficiary population. The M81 office hopes the resource will be used to better manage and allocate resources across the system.

This first edition of the Chartbook utilizes data from Fiscal Year (FY) 2010 and has two sections. The population section contains demographics and enrollment information for the Navy catchment area and Multi-Service Market Area (MSMA) population. The procedure and condition section contains procedure volume and population prevalence rates for common procedures and conditions in Navy catchment areas and MTFs.

The document also summarizes the populations living in catchment areas surrounding Navy hospitals and Multi-Service Market Areas (MSMAs) where Navy hospitals are located. It tabulates statistics for all Navy CONUS and OCONUS catchment areas and MSMAs. It also provides procedure volumes for individual Navy facilities.

PDFs of The Chartbook and the Methodology document can be found on the BUMED CAC enabled intranet. Validate with your email certificate at https://es.med.navy.mil/bumed/m8/m81/default.aspx.

Navy Medicine developing vaccine for travelers' diarrhea

From Naval Medical Research Center Public Affairs

SILVER SPRING, Md. - Of the 80 million visitors to developing countries each year, as many as 60 percent contract diarrhea, with 20 percent requiring bed rest and one percent hospitalization. While most diarrhea is acute (lasting several days), approximately 8-10 percent of sufferers may go on to develop persistent or chronic abdominal complaints. It is the most often reported illness among troops in Iraq and Afghanistan, nearly two-thirds of whom reported at least one episode during deployment, half of those requiring medical care.

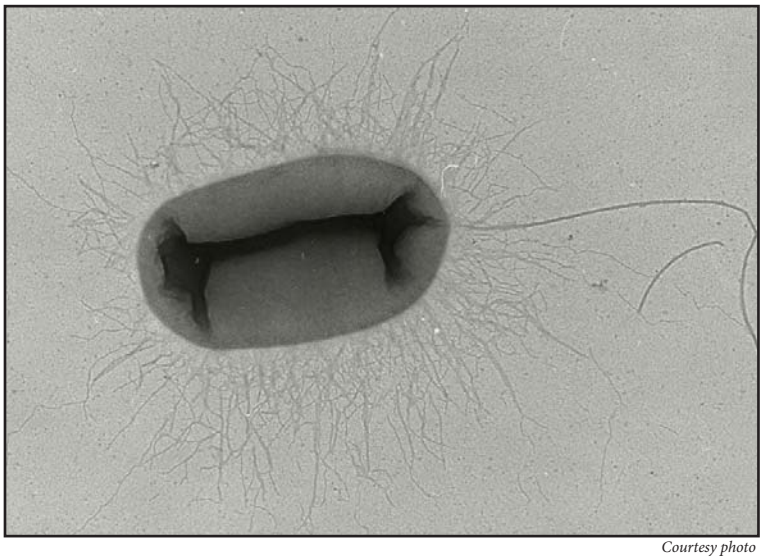
The principal culprit is enterotoxigenic Escherichia coli, or ETEC, found most often in food and sometimes in water. It begins its way to the intestines, where it finds a home base as quickly as possible. The symptoms of illness usually include cramps, nausea, watery diarrhea and sometimes fever.

As of yet, there is no vaccine. A team at the Naval Medical Research Center (NMRC) hopes to change that.

The NMRC researchers know that to infect its host, the ETEC bacterium must latch on to the intestines.

Bacteria are covered with fine hairs called pili. At the tip of each hair, the bacterium deposits a sticky protein adhesin that makes it possible for these pili to adhere to a complementary host cell receptor. Once the bacterium attaches itself, it rapidly multiplies and releases the toxin that triggers diarrhea. The bacterium's success hinges on its ability to tether to the intestinal wall—without that there can be no infection.

The NMRC research team has developed an experimental adhesin-based vaccine that stimulates the production of antibodies that guard the intestinal wall and effectively block ETEC bacteria at the point of contact. They also created a vaccine molecule that combines the adhesin with a nontoxic derivative of the ETEC enterotoxin, in effect alerting the body to produce anti-attachment and anti-toxin antibodies and further defend against infection. The vaccine being tested is a single component prototype of what would become a multivalent vaccine, designed to immunize against the most common strains of the ETEC bacterium.



Courtesy photo

Electron micrograph of the ETEC bacterium, with the hair-like fimbriae radiating from its surface. The adhesin-based vaccine has been engineered from the sticky protein found at the far tips of each of these hairs.

"We are heading into this first clinical trial with a favorable tailwind, in that all of the data that we've accrued in preparation for it has been very promising," said Capt. Stephen Savarino, leader of the research team that has developed this vaccine and head of the Enteric Diseases Department, NMRC.

The researchers will administer the test by skin patch, then collect specimens to gauge the body's ability to ward off infection.

"Primary outcomes for this trial are safety," said Cmdr. Mark Riddle, the principal investigator and a researcher in NMRC's Enteric Disease Department. "We hope that the vaccine will be safely tolerated and not result in any severe or serious adverse events. An additional outcome is immunogenicity. We hope this trial will demonstrate the vaccine given by the skin results in robust immune responses and specifically immune responses in the GI tract."

The DoD has co-developed more than half of the vaccines routinely given to soldiers and helped develop eight of the 15 general adult vaccines licensed in the U.S. since 1962, including those for influenza, typhoid, hepatitis A, hepatitis B, rubella, meningococcal disease, adenovirus and Japanese encephalitis.

The Enteric Diseases Department at NMRC now hopes to add an ETEC vaccine to that list.

Courtesy photo

SILVER SPRING, Md. - Cmdr. Mark Riddle (left), clinical trial principal investigator, and Capt. Stephen Savarino, physician-scientist who has spearheaded the development of the ETEC adhesin vaccine, are shown in the hallway outside the Clinical Trials Center at the Walter Reed Army Institute of Research.

Got News?

If you'd like to submit an article or have an idea for one, contact MEDNEWS at 202-762-3160 or Valerie.Kremer@med.navy.mil

Tri-service research lab opens in San Antonio

By Joe N. Wiggins, Naval Medical Research Unit - San Antonio Public Affairs

SAN ANTONIO - One of the final directives of the 2005 Base Realignment and Closure (BRAC) Law was completed when the Tri-Service Research Laboratory officially opened with a ribbon-cutting ceremony at Fort Sam Houston, San Antonio, Texas.

It consolidates three military branches in one location while saving money in maintenance and utilities costs, according to officials speaking at the ceremony. Navy and Air Force officials praised the new facility and the results in biomedical research it will produce over the years.

"We are now witnessing the opening of this…project that resulted from that [2005] BRAC decision," said Rear Adm. Bruce Doll, the director of Navy Medicine Global Research, Special Assistant to the Navy Surgeon General for Medical Research. "Not only is this lab destined to produce even more of the kind of results that came out of the previous location, this building accomplishes savings we could have never achieved in our previous facilities."

In remarks to more than 250 visitors and spectators at the ceremony held in front of the lab, Thomas S. Wells, director of the 711th Human Performance Wing, said the facility offers capabilities and opportunities to all branches of the Department of Defense.

"Each service brings their unique mission together as we conduct research in laser and radio frequency bioeffects and the effects of non-lethal weapons," said Wells.

Wells also told the audience the 181,000 square foot facility marks a new direction in military biomedical research.

"Nowhere else in the United States, will you find AF, Navy, and Army-directed energy bioeffects research under one roof. Inside the walls of this building, you will get a glimpse of how we are creating the military of the future."

Much of the savings designed into the new building will come from a more modern design and from the consolidation of previous facilities.

Photo by Patricia Keilberg/Released

SAN ANTONIO - From left: David Thomas, U.S. Army Corps of Engineers; Thomas Wells, director, 711th Human Performance Wing; Rear Adm. Bruce Doll, director, Navy Medicine Global Research, Special Assistant to the Navy Surgeon General for Medical Research; and Eric Bunner, project executive, Skanska USA Building, Inc. use a laser to officially cut the ribbon marking the official opening of the Tri-Services Research Laboratory at Fort Sam Houston, Texas.

"We were in 29 different locations while at Brooks City-Base," said Dr. Gordon Hengst, integration manager for the Directed Bioeffects Division of the Air Force's 711th Human Performance Wing. "We have now consolidated into one 181,000 square foot facility at Fort Sam Houston."

Other officials in the facility gave further examples of the

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U.S. Navy photo by Mass Communication Specialist 3rd class Samantha A. Lewis/Released

Navy Medicine Innovative Technology

SAN DIEGO - Attendees of the Naval Medical Center San Diego first Scar Symposium watch a dermatology laser treatment from a patient room through video teleconference, Sept. 15. The medical center hosted the two-day symposium to provide education and training on advances in laser technology and treatment techniques for traumatic scars.

View more Navy Medicine photos online at: www.flickr.com/photos/navymedicine/

Navy Medicine explores ReFace with FBI

Courtesy photo

By Capt. Gerald Grant, director of the Craniofacial Imaging Research Group, Naval Postgraduate Dental School, directorate of Navy Medicine Manpower Personnel Training and Education Command and service chief of 3-D Medical Application Center, Bethesda, Md.

My team and I are currently involved in some unique craniofacial reconstruction projects and we're partnering with the Federal Bureau of Investigations (FBI) to do it. We are developing a process where digital images of the skull and the complete head are captured during dental in-processing of service member recruits.

The process will provide a digital template for craniofacial reconstruction to be used if necessary in the event of combat trauma. I have found that the use of digital 3-D images to produce cranial implants for our wounded warriors has reduced the fabrication and surgical time by more than half. By taking images at the time of entry into service, we are able to use the original images of personnel to improve our reconstructions, minimize operating room (OR) time, and create better outcomes.

Images are computed from CT scans, MRIs, Cone Beam CT scans and a host of other data sources. We take those images and produce a "virtual 3-D model," which we can register with other models, remove parts and develop a surgical plan. This is cutting edge medical/dental research. The data we capture involves both skeletal and surface capture of the head and presently there are only a few small databases with that type of information. Our database will potentially be the largest and most diverse database of craniofacial images in the world which is why we have attracted the attention of have other organizations including the FBI for partnership on the project.

The FBI needs a way to identify thousands of human skeletal remains that they have throughout the United States. As such, they have developed a couple of protocols where a craniofacial database would be of great use.

I am currently working on an identification program called ReFace for them. I have a limited number of Head CT scan images that represent Caucasian, black, and Asian men and women. We can place a CT scan of a skull into the program and it will do a reconstruction of the face from the data it contains. I have developed an objective measure to validate their software so we can see how accurate it is and I am continuing to work with the FBI and software developers to increase the accuracy and add more data.

This data can be used to develop a system where we can reconstruct cranial defects for fabrication as well. It is pretty cool when all the data looks back at you in the form of a face and that's where the FBI wants to identify the face and link it to a real person.

Although the FBI studies are more directed toward forensic identification, the software works to provide reconstruction information as well, which is more in tune with what we want to study for the Navy. Either way, by leveraging the skills and resources of both of our organizations, we are developing a process that will benefit multiple parties, especially our wounded warriors who have sacrificed so much already. I am proud to be a part of this program and look forward to continue my work on this critical project.

LAB

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facility's capabilities and savings.

"The ceilings in the labs, for example, are fiberglass reinforced, and never have to be painted," said Carrie Crane, the veterinary support manager for the U.S. Navy Medical Research Unit-San Antonio (NAMRU-San Antonio), one of the units located in the facility. "Combined with the other improvements in the floors and walls, we know we will save taxpayer dollars. In the old facilities at Brooks, we had to paint everything every three years, at a cost of more than $200,000 each time."

Crane also explained that by being collocated in one building, each service can benefit from the facilities used by the others.

"Just because one service owns a particular lab doesn't mean another service can't use it; all you have to do is request it and schedule a facility for your work," said Crane.

Admiral Doll concluded his remarks by reminding the audience of the high point the new Tri-Service Laboratory represents, along with the pride the users will have in better using available resources.

"This ribbon-cutting marks another milestone in the development of the finest military bioeffects research facilities in the world," he said. "Every person who works here will have the knowledge they are proudly serving their nation, while being a good steward of valuable resources in their local community.
Our Navy team is proud to join you in this endeavor."