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U.S. Army Public Health Command

Spring 2015

▶ USAPHC Best Warriors compete

PLUS:

- ▶ **Laser safety videos win awards**
- ▶ **Resilient Soldier**

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PEOPLE ◆ ANIMALS ◆ ENVIRONMENT
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(COVER) Spc. Elizabeth Drinkard, Public Health Command Region–Europe Best Warrior Competition runner-up, confidently clears the rope obstacle high above the clouds. (Photo by Sgt. Lester L. Cannon, III, food inspector NCO, Public Health Command District–Northern Europe)

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USAPHC
U.S. ARMY PUBLIC HEALTH COMMAND

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USAPHC BEST WARRIORS COMPETE

JANE GERVASONI
EDITOR

Sgt. Eric Jimenez, USAPHC Headquarters (Photos by Christina Graber, USAPHC Visual Information Division)

U.S. Army Public Health Command Soldiers work in locations around the globe to support the command's public health mission, but once a year, the 12 Best Warriors from each of five regions and the USAPHC Headquarters come together to compete to become the command's Best Warriors.

The weather at Aberdeen Proving Ground, Maryland, Lauderick Creek training area, cooperated March 31–April 2 as Soldiers and Non-Commissioned Officers tested themselves by taking the Army physical fitness test and a written exam as well as locating markers in day and night land navigation and engaging simulated enemy targets in a weapons qualification event. The final event was an appearance before a command sergeant major board.

Spc. Michael Murphy, Headquarters and Headquarters Company, who earned Best Warrior Soldier of the Year honors said, "We competed against ourselves, and we were supported by everyone."

Murphy credited Sgt. Eric Jimenez, fellow competitor from HHC, with being his mentor and support during the competition.

Sgt. Kil Jong Lee, Public Health Command Region–Pacific, said he competed last year.

"My motto is never to quit," Lee said, and his persistence paid off as he earned Best Warrior NCO of the Year this time around.

All the competitors said the competition was physically and mentally demanding, and they praised the cadre who coordinated the event.

The competitors received three-day passes, and in addition, Lee and Murphy were presented with Army Commendation Medals. They will compete against other U.S. Army Medical Command Soldiers in the MEDCOM Best Warrior Competition scheduled to be held during the first week of May in Texas.

"Our Soldiers and NCOs get great support from others in their regional commands," said Command Sgt. Maj. Paul Ramos, USAPHC command sergeant major. "They help each other enhance their technical and tactical skills. The competition promotes and inspires excellence." ▲

(PHOTOS) Soldiers competing for Best Warrior locate markers during the day land navigation event.

The following is a list of the Soldiers who competed in this competition:

PHCR–Europe: Sgt. Luis Riveracapeles & Pfc. Keturah Branch

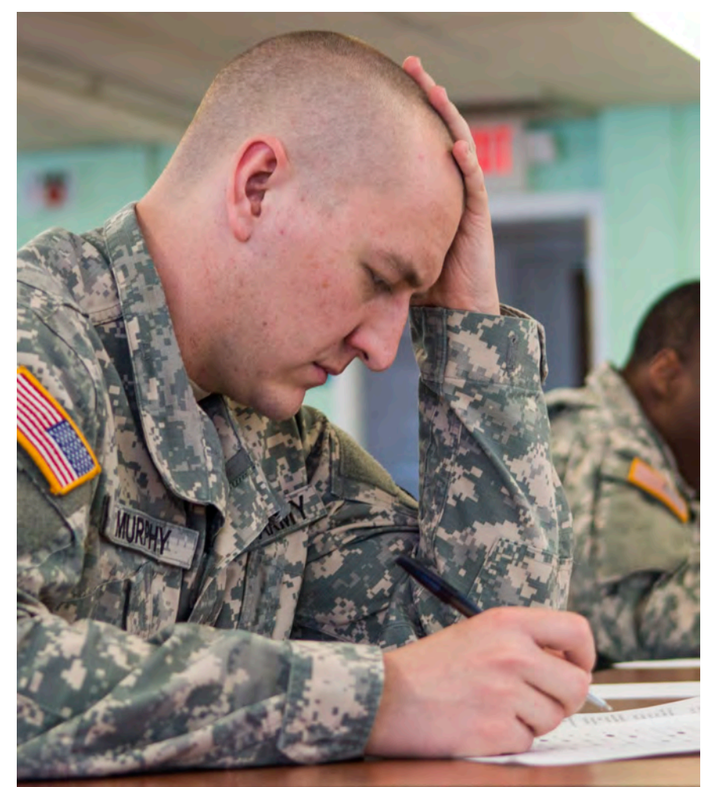
PHCR–Pacific: Sgt. Kil Jong Lee & Spc. Charlestonion Moore

PHCR–North: Sgt. Kourtney Wallace & Spc. Yevheniy Andreyko

PHCR–South: Staff Sgt. Michael Waters & Sgt. Robert Lutton

PHCR–West: Sgt. Olayori Ogunnaike & Pfc. Emmanuelle Braaten

PHCR–HHC: Sgt. Eric Jimenez & Spc. Michael Murphy



(TOP) Sgt. 1st Class Rickey Hines, USAPHC Headquarters cadre member; Sgt. Maj. Alicia Singer, USAPHC Operations; Spc. Michael Murphy, USAPHC HQ; Pfc. Keturah Branch, PHCR–Europe; Sgt. Eric Jimenez, USAPHC HQ; Spc. Charlestonion Moore, PHCR–Pacific; Sgt. Kil Jong Lee, PHCR–Pacific; Command Sgt. Maj. Paul Ramos, USAPHC HQ; Sgt. Luis Riveracapeles, PHCR–Europe; Sgt. Kourtney Wallace, PHCR-North; Sgt. Robert Lutton PHCR–South; Sgt. Olayori Ogunnaike, PHCR–West; Spc. Yevheniy Andreyko, PHCR–North; Pfc. Emmanuelle Braaten, PHCR–West; Staff Sgt. Michael Waters, PHCR-South; 1st Sgt. Jason Stillwell, USAPHC HQ.

(RIGHT) Sgt. Kil Jong Lee, PHCR–Pacific, works through the physical fitness test portion of the Best Warrior competition on his way to earning the top non-commissioned officer spot.

(LEFT) Spc. Michael Murphy, USAPHC Headquarters, completes the written test. Murphy won Best Warrior Soldier of the Year honors.

Laser safety videos win awards

JANE GERVASONI
EDITOR

In general, military training is often less than exciting and frequently is just plain boring. However, the physicists at the U.S. Army Public Health Command who provide laser safety training wanted to give Soldiers new videos to really spark their interest as well as provide them with the latest information on lasers used by the military.

The new videos that have been produced are not just educational, but they are also winning Army Video Production awards, and there is a story behind the videos.

"In the 1980s, the Laser Microwave Division of the Army Environmental Hygiene Agency created several laser safety videos when the Army was just beginning to use lasers," explained Rodney Wood, a physicist who works at the USAPHC—a successor organization of the AEHA.

"The training videos were out-of-date in many ways," Wood said. "We used these videos for years, but the technology has changed along with uniforms and equipment. Today nearly every Soldier on the battlefield has a laser and learning to use them safely is paramount to Soldier safety, but we needed to get this information to the Soldiers."

> "Today nearly every Soldier on the battlefield has a laser and learning to use them safely is paramount to Soldier safety, but we needed to get this information to the Soldiers."

During a visit to the U.S. Army Training and Doctrine Command at the annual Association of the U.S. Army Conference in Washington, D.C., Wood spoke to TRADOC video production specialists and Department of the Army Safety Offices to convince them to help update the training videos.

It took years of negotiation to come up with an agreement and funding for the project, but eventually TRADOC took on the task of developing new, exciting and educational safety videos.

"In June 2011, USAPHC, TRADOC and Army safety personnel met with a scriptwriter, the TRADOC producer and about 25 Army laser safety experts to come up with a plan to develop a series of short videos," Wood said.

The writer, who had no real-life experience with the military or lasers, other than mini laser pointers, was able to write seven great scripts with the help of physicists and laser experts.

"We wanted them to be educational and get the safety message across, but we also wanted them to be easily understood, entertaining and captivating to our audience—the enlisted Soldier," said Wood.

"The videos accomplished those goals and more," according to Timothy Mikulski, health physicist at the Army Safety Office. "Based upon Rodney's guidance, TRADOC was able to run with different scenarios and be creative so that our Soldiers have something they can use to understand nonionizing radiation safety. The awards for the videos are one confirmation of how well things turned out."

"Laser Safety: Chapter One—Introduction to Lasers and Their Safe Use (Laser Wars)" took first place in the Army Video Production Awards which automatically submits it to the Department of Defense competition. Another laser video, "Laser Safety: Chapter Three-Biological Effects of Lasers (Seeing Eye to Eye)," placed third in the competition, and it too will be sent to DOD.

"We now look for feedback from the field on the videos; I am sure that it will be very favorable. That feedback will be utilized as we continually work to make the program better, it is an iterative process," according to Mikulski.

"I am excited about these videos and very impressed with the efforts put into developing them," Wood said. "The important thing is to get the videos to our Soldiers, civilians and contractors so they can gain vital knowledge about laser safety."

The completed laser safety videos are available at www.milsuite.mil. Go to MilTube, click on Education and Training link. Type "laser safety" in the search window and click browse and type in "laser safety" in the second search engine, then click on the individual videos. ▲

(TOP) Rodney Wood, USAPHC physicist (center), joins with actors, the director and others who produced the winning videos.

(MIDDLE) In a scene from "Laser Safety: Chapter One. Introduction to Lasers and Their Safe Use (Laser Wars)" actors use lasers. The completed laser safety videos are available at www.milsuite.mil.

(BOTTOM) Rodney Wood, USAPHC physicist, works with Trip Payne, video director, and Leslie Custalow, teleprompter operator for the shoots to develop new laser safety videos.

NEWS AND NOTES
FROM AROUND THE COMMAND

The Army Institute of Public Health Veterinary Services Portfolio launched a One Health initiative, beginning in September 2014, with the goal of integrating the everyday VS missions into human military medicine and zoonotic disease surveillance. In December, during the AIPH Science Symposium, the VS Portfolio presented posters highlighting these projects and the global, One Health mission. In support of this integration of VS mission, an upcoming 2015 edition of AIPH's Zoonotic Disease Summary will incorporate animal data obtained from the Remote Online Veterinary Record. The report is expected to be published shortly and can be accessed through http://phc.amedd.army.mil/whatsnew/Pages/PublicationDetails.aspx? type=Zoonotic%20Disease%20Summary. The report is aimed at supporting critical zoonotic disease risk assessments for the military population. The summary combines zoonotic disease data from human, entomological, laboratory and animal data sources. The implementation of ROVR, with a searchable database populated by entries from region, district and section veterinary treatment facilities, empowered members of the veterinary staff to contribute to VS data collection and to global military public health.

A VS Portfolio project currently in development is the Veterinary Medical Event Guidelines and Case Definitions. The initial phase includes developing case definitions for the zoonotic diseases outlined in the Armed Forces Reportable Medical Events Guidelines. A standardized approach to defining and recording zoonotic diseases is essential to the ability to augment existing surveillance efforts and is expected to provide a more complete disease picture for military populations.

The VS Portfolio is pursuing a One Health approach to understanding and mitigating food-related gastrointestinal illness in military populations. In collaboration with AIPH Disease Epidemiology Program, VS personnel are combining information and trends from food inspections with trends in human medicine GI cases to create a targeted approach to reducing foodborne illness in military populations. To fully achieve this objective, personnel plan to identify areas requiring growth and improvement within food protection practices, metrics and databases. The accuracy and dependability of the data collected is essential.

The Toxicology Portfolio recently authored an article entitled "Toxicity Testing in the 21st Century: Refining the Army's Toolbox" in an Army Medical Journal. The article explains that in 1985, the Office of the Surgeon General designated the Army Environmental Hygiene Agency (now the Army Institute of Public Health), as lead agent of the Health Hazard Assessment Program. In fulfillment of that mission, the AIPH Toxicology Portfolio is charged with evaluating the toxicity of compounds for use in military materiel entering the Army supply system. The instrument used for this evaluation is a Toxicity Clearance that provides a technical basis to help the acquisition program manager make life-cycle decisions. In accordance with the National Academy of Sciences recommendations and Department of Defense mandates to improve efficiency in research, development and acquisition, the Toxicology Portfolio has implemented a phased approach to a toxicity data requirement and has expanded its toolbox to include other methods to better evaluate potential health and environmental threats that is consistent with the level of effort devoted to the technology. The article explains the phased-approach to toxicity testing using examples of current testing underway.

The Toxicity Evaluation Program prepared a toxicity clearance for a new product being considered for use as a small-and large-caliber military weapons cleaner, lubricant and short term preservative manufactured with the intent to meet Military Performance Specifications. The clearance was requested by the U.S. Army Armament Research, Development and Engineering Center, Picatinny Arsenal, New Jersey.

Dr. Jonathan Epstein, counsel on the Senate Committee on Armed Services overseeing service-wide nuclear and strategic systems, chemical and biological defense, nonproliferation and space issues and Department of Energy nuclear weapons programs, visited Aberdeen Proving Ground–South March 31. He was given overview briefings by eight members of the APG Team Chemical, Biological, Radiological and Nuclear (CBRN) including the USAPHC. Lt. Col. Kelly Halverson, Laboratory Sciences Portfolio director, stood in for Col. John Teyhen. He provided an in-depth briefing covering the mission of the command as well as discussing the organization's support of CBRN programs and partnerships with other military and civilian organizations, primarily in support of rapid identification of CBRN events. Epstein questioned the level and types of support provided by preventive medicine and veterinary personnel located in multiple locations around the globe. In addition, Dr. Laurie Roszell, Health Risk Management Portfolio, explained the USAPHC static display and detailed some of the current partnerships and CBRN initiatives. Epstein also toured the new Medical Research Institute of Chemical Defense facility as well as some additional facilities on the post.

Members of the AIPH Laboratory Sciences Portfolio collaborated with the U.S. Centers for Disease Control and Prevention, other government organizations, universities, and corporations to author an article: "Borrelia burgdorferi not confirmed in human-biting Amblyomma americanum ticks from the southeastern United States." The article was accepted for publication by the Journal of Clinical Microbiology. Authors from the AIPH included Ellen Y. Stromdahl, Robyn M. Nadolny, Mary A. Vince, Chad E. Elkins and Spc. Michael P. Murphy.

Shawn Hueth and Mark Isenstein, industrial hygienists with the Occupational Health Science's Portfolio's Industrial Hygiene Field Services Program, assisted the Department of Defense Office of the Inspector General at Fort Gordon, Georgia, in conducting the Military Housing Inspection of the Southeastern Region. Hueth and Isenstein are part of the environmental health team assessing military housing and facility conditions and installation programs on topics pertaining to mold, indoor air quality, lead, asbestos and radon.

David Kolson, Ergonomics Program, completed the musculoskeletal lifting evaluation for the Improved Position and Azimuth Determining System and the Mine Resistant Ambush Protected Long Wheel Base Ambulance Health Hazard Assessments. These assessments identified potential lifting hazards associated with the system and identified mitigation strategies to minimize workplace injuries.

Beth Martin, USAPHC supervisory environmental scientist, provided training workshops for Fort Carson, Colorado, at its first Sustainability Expo Feb. 26. Personnel from activities across the installation packed the Elkhorn Conference Center to learn about Federal sustainability requirements and Agency policies. The event was hosted by the Fort Carson

Installation Sustainability Resource Office. Martin educated attendees about the types of products covered by Federal sustainable procurement requirements and how to obtain those products through government supply channels. Martin also advised attendees on different sustainability statutes and regulations, such as the drivers for the Environmental Protection Agency's "Buy Recycled" program and the Department of Agriculture's "BioPreferred" program. Martin pointed out the many of the bio-based products substitute for petroleum-based products.

The Laboratory Sciences Portfolio earned first and third place awards in the 20th Department of Defense Triennial Pest Management Workshop poster competition held March 22–27 at the Naval Air Station, Jacksonville, Florida. The awards were signed by the director of the Armed Forces Pest Management Board and Maureen Sullivan, director of Environment, Safety and Occupational Health Office of the Assistant Secretary Of Defense (Energy, Installations & Environment). The winning posters were primarily the work of Ellen Stromdahl, entomologist, her staff and the USAPHC Visual Information Division. Melissa Miller, PHCR–North entomologist, accepted the awards on behalf of the LS Portfolio.

Effective immediately, USAPHC will resume anesthetic and limited surgical procedures at some of its Veterinary Treatment Facilities around the world. Not all of the VTFs will resume surgical services as that will be determined by the availability of veterinary personnel, and appropriate equipment and facilities. Resumption of services will include spaying, neutering, dental work, tumor removals and other surgical procedures. These procedures were suspended for the previous five months in an effort to adjust management practices while sustaining the Army Veterinary Service fundamental responsibility of providing for the health and wellness of Military Working Dogs and beloved pets. The VTFs have increased their customer base by enhancing their basic services and many of the facilities will be able to offer the additional services.

Col. Thomas Honadel, Chief Warrant Officer 4 William Warren, Master Sgt. Lennard Bookman and senior leaders from the military feeding community convened at Defense Logistics Agency Distribution in San Joaquin, California, March 23–27 to discuss facility and operational issues that could potentially impact food quality and protection at the Unitized Group Ration assembly operation. Topics discussed included: temperature maintenance and monitoring; recall/ traceability protocols; product inventories; product receiving personnel training; pest management; and changes to the electronic inventory control system. Attendees included representation from the Marine Corps headquarters, HQ DLA, the Joint Culinary Center of Excellence, the Air Force, U.S. Army Natick Soldier Research, Development and Engineering Center, and Public Health Command Region–West.

The Environmental Health Engineering Portfolio Drinking Water and Sanitation Program and PHCR–Europe are updating the water system vulnerability assessment at U.S. Army Garrison Ansbach, Germany. Water system vulnerability assessments help safeguard potable water systems against accidental and intentional damage, contamination and cyber-attack by identifying vulnerabilities and recommending protective controls. The team was onsite March 9–20.

Dr. Joseph Knapik, Dr. Bruce Jones and Ryan Steelman, Epidemiology and Disease Surveillance Portfolio Injury Prevention Program, submitted an article titled "Physical Training in Boots and Running Shoes: A Historical Comparison of Injury Incidence in Basic Combat Training" that has been accepted for publication in "Military Medicine." The meta-analysis showed that the change in 1982 from conducting physical training in combat boots to running shoes did not reduce injuries rates during Army Basic Combat Training. The article can be accessed at: https://iphc.amedd.army.mil/functions/commandinfo/Technical%20Reports%20and%20Publications%20Library/Physical%20Training%20in%20Boots%20and%20Running%20Shoes.pdf.

Tyson Grier, health scientist in the Injury Prevention Program, provided a presentation March 25 for the Northeastern Maryland Technology Council Science Café program at the Bel Air, Maryland, Library. The presentation "These Boots Were Made for Walking—The Science of Shoes," explained that running footwear is important to athletes, runners, walkers…anyone who performs some type of aerobic endurance activity on their feet. Footwear characteristics influence fatigue and comfort. More than 60 people attended asking many questions about running shoes.

The Army Hearing Program conducted a Hearing Technician certification course for the Minnesota Army National Guard, March 17–20, at Camp Ripley. The course was approved by the Council for Accreditation in Occupational Hearing Conservation. It was also approved for 13.5 continuing education units from the Army Nurse Corps Continuing Nursing Education Program. During the 2014 calendar year, the USAPHC Army Hearing Program conducted 13 courses and certified 162 hearing technicians which equates to 22.6 percent of the 714 hearing technicians certified in the 75 Army courses. USAPHC Europe conducted nine courses in fiscal year 2014 in Germany, Belgium, Italy, Qatar and Kuwait. USAPHC courses can be located in Army Training Requirements and Resources System, or ATRRS, course 26A-F51/300-F51. In addition, the Army Hearing Program provided 16 audiometer systems to the Georgia Army National Guard Office of the State Surgeon, State Medical Logistics, to assist in the completion of a Soldier readiness processing of 1,000 Soldiers March 7–8.

Rebecca Leaverton, Health Risk Management Portfolio, is the recipient of two 2014 U.S. Army Medical Command/Office of the Surgeon General Lean Six Sigma awards. The two award categories are LSS Practitioner of Year in the Green Belt category and LSS Project of Year in the Green Belt-Quality category. Leaverton's LSS Green Belt project was focused on increasing the effectiveness and efficiency of the Deployment Environmental Surveillance Program soil archiving process. As a result of this process analysis, the team reduced the rework and redundancy of the DESP equipment specialists, reduced process cycle time from 48 days to seven days, reduced lab defects from 2,433 per 10,000 opportunities to zero, reduced archival data defects from 3,120 defects per 10,000 opportunities to zero, reduced decision points in the process from 16 to one, and achieved an estimated cost avoidance over the next five years of $140,000. ▲

MILITARY OFFICER TEACHES LIFE LESSONS IN THRIVING

CHANEL S. WEAVER
PUBLIC AFFAIRS OFFICE

Maj. Thomas Jarrett, a clinical social worker at the USAPHC, was recently accepted to Hindu University of America in Orlando, Florida, to complete a doctoral degree in yoga philosophy and psychology.

MAJ. THOMAS JARRETT HAS LONG STOOD OUT AS A REMARKABLE SOLDIER WITHIN THE U.S. ARMY PUBLIC HEALTH COMMAND. As a clinical social worker in the Integrated Health Education program of the USAPHC's Health Promotion and Wellness Portfolio, Jarrett is a pioneer of Army resiliency and thriving, promoting post-traumatic growth, or the idea that individuals are made stronger through their various trials, tribulations and challenges of life.

"A key tenet of this belief is that it's not what happens to us, but how we respond that matters," said Jarrett. "We want to respond versus react."

He was also instrumental in bringing resiliency training to 350 Army medical providers and Chaplains, and classes for over 18,000 Soldiers while he was deployed in support of Operation Iraqi Freedom in 2008–2009, promoting the Army's first combat resiliency program called Warrior Resilience and Thriving.

Jarrett will have another opportunity to excel soon. He was recently accepted to Hindu University of America in Orlando, Florida, to complete a doctoral degree in yoga philosophy and meditation, with a special emphasis on military-unique situations, practical psychology and mindfulness.

Jarrett was nominated to directly write his dissertation, based on previous doctoral coursework at New York University and experience as an Army clinical social work officer completing a fellowship at the Yoga Research Foundation in Miami, Florida. The founder, Sri Swami Jyotirmayananda, a foremost proponent of Integral Yoga, summarizes: "Yoga philosophy's goal is to lead everyone to attain the goal of life through integral action, emotions, will and reason. This will promote fulfillment and liberation."

Throughout his career, Jarrett has been inspired to help Soldiers mitigate and prevent post-traumatic stress disorder, rather than only treating them for it. Primary prevention is a key focus of the USAPHC.

"I've always seen it as my mission to help Soldiers condition their minds to expect that negative events will occur in life, yet they should have strong systems in place like family, religion, social networks and an especially robust philosophy to help them thrive," said Jarrett. "Research shows that individuals who have built these support networks and practice stress-inoculation training, have a better chance of surviving and recovering from traumatic incidents. It is all about returning with honor."

Those who work with Jarrett say they are not surprised that he was accepted to do more postgraduate work that benefits Soldiers. They say he is always concerned about the welfare of Soldiers and families.

"Maj. Jarrett has benefitted from such unique military experiences and specialized training in the area of resiliency and thriving," said Laura Mitvalsky, director of the HPW Portfolio at the USAPHC. "His passion for wellness and the principles he teaches, either as a clinician or as a health educator, have been invaluable as we develop tools to support the field with spiritual fitness, the Army surgeon general's brain health priorities and much more. I feel incredibly fortunate as a director to have someone like Maj. Jarrett on my team."

Jarrett is also a Rational Emotive Behavior Therapy supervisor and Fellow at the Albert Ellis Institute in New York City. A founder of combat resiliency and thriving, he also contributes to the Army Surgeon General's Brain Health initiative.

"His passion for wellness and the principles he teaches, either as a clinician or as a health educator, have been invaluable as we develop tools to support the field with spiritual fitness, the Army surgeon general's brain health priorities and much more."

—Laura Mitvalski
Portfolio Director, HPW (USAPHC)

As an advocate and pioneer for resiliency, Jarrett likes to practice what he preaches. When he is not teaching Soldiers and families to rise above their challenges, Jarrett enjoys hiking, deep sea diving, flying aerobatic planes and spending time with his family.

"I require mindfulness in all these pursuits," he said. "Mindfulness is a form of active presence or ongoing meditation—it's a state of fully being in the present," said Jarrett, who also has a Special Forces, enlisted background.

Jarrett is scheduled to deploy to Kuwait soon, and although he will be separated from his family, his attitude is optimistic.

"I am looking forward to growing as a result of this experience," said Jarrett.

He credits his upbringing with molding him into the individual he has become today.

"My dad, an Army officer, Ranger and pilot served in Vietnam and was my role model, and my mom is the epitome of an Army spouse," said Jarrett. "It was from them that I learned to overcome and even be thankful for adversity, starting as an Army brat." ▲

Maj. Thomas Jarrett talks with students about resiliency and shares his experiences at a Science, Technology, Engineering and Mathematics exposition held at Aberdeen Proving Ground, Maryland.

QUAIL GET A HOME MAKEOVER

MAJ. SANG LEE
TOXICOLOGY PORTFOLIO

People are accustomed to thinking of animals as pets, but at the U.S. Army Public Health Command, they also help assess possible adverse health effects from military-relevant materials on warfighters and the supporting civilian workforce.

Even species as exotic as quail contribute to supporting warfighters and the military civilian workforce. These birds are essential animal models in studying the health effects of some chemical materials. And though one cannot totally eliminate the use of such animals in health research, scientists are encouraged to take the extra step in protecting their welfare while they are under an organization's care. The Toxicology Portfolio in conjunction with Quality Systems and Regulatory Compliance Office of the USAPHC has taken that extra step.

A biological science technician from the Toxicology portfolio visited a local agricultural feed store where chicks were housed in a large rubber bin big enough for them to roam about freely. It occurred to her that a similar environment could house the Japanese quail that were to be used in an upcoming study to help ensure their comfort and welfare. She took some photos and suggested the idea to the biologist in charge of the study.

"The chicks looked so happy. That's what we should do for the quail," was the message sent along with the photo to the biologist in charge of planned quail study.

The idea for a home makeover was reviewed by the program manager at the Toxicology portfolio. He agreed that the study staff should pursue this idea as an interim solution until a suitable stainless steel caging system, as recommended by the previous attending veterinarians and USAPHC's Institutional Animal Care and Use Committee, could be located.

A design was drafted that was intended for freshly-hatched chicks and juvenile birds. The design was simple and consisted of a 54-gallon rubber tub with holes drilled on one end to attach PVC pipes to deliver water. The tub was covered with mesh top to allow good circulation of air and light. The home makeover became a project supported by many of the portfolio scientists and technicians.

The primary reason for the new accommodations was to promote the welfare of quail by providing the best housing and care for them. Members of the USAPHC's Institutional Animal Care and Use Committee also supported this innovative system to house the birds and commended those who developed the housing.

Previous commercial brooder caging systems had a mesh flooring that sometimes caught the tiny quail-chick feet. Even when scientists implemented smaller mesh floor netting, there were still a few weekly issues despite all efforts. The new tub caging system resulted in no issues, even after being in use for a few months.

"They worked even better than I could have possibly imagined. We didn't have an injury to the quail," said the biological technician.

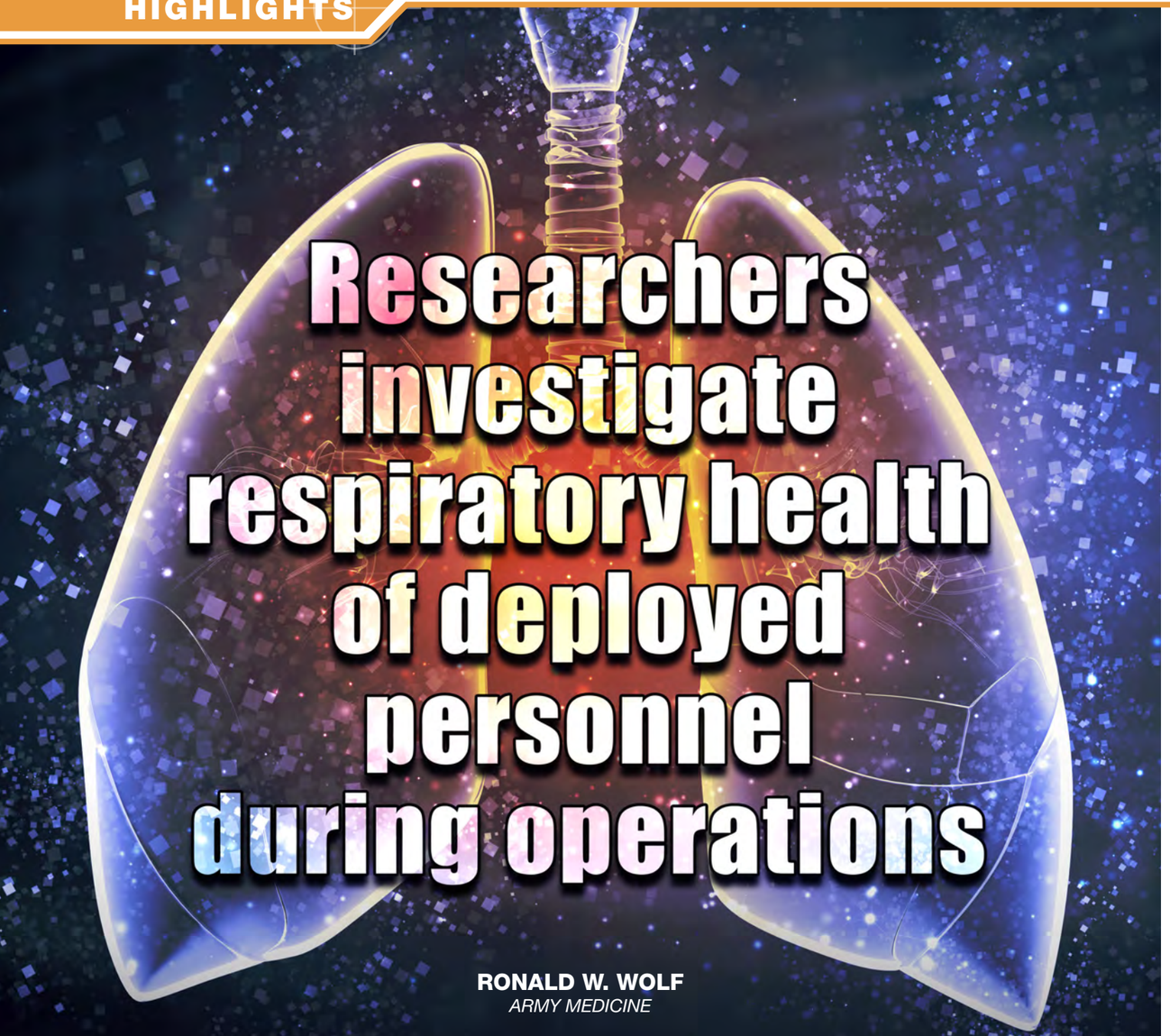
The new enclosures had some unexpected benefits for the researchers as well.

The new units also served to help the workforce have a better ergonomic working environment. Commercial cages presented ergonomic challenges to researchers when reaching into the cages trying to remove the agile birds. The task often resulted in bruised arms, hands, fingers and a lot of frustration.

"We used to get bruises all over our arms and hands. It's so much easier now with the new set-up," explained the program manager after a few months of use.

Both these issues concerning bird and worker welfare were solved thanks to the efforts of a few forward-thinking individuals and supporting staff who showed exceptional concern for the animals and were willing to take a few extra steps by thinking outside the box. Recently, a new stainless steel system has been identified as a more permanent potential brooder system for the quail and is currently being evaluated by USAPHC's Quality Systems and Regulatory Compliance Office. ▲

Safe quail cages were made from 54 gallon rubber tubs with holes drilled on one end to attach PVC pipes to deliver water. Tubs were covered with mesh tops to allow for circulation of air and light.



Researchers investigate respiratory health of deployed personnel during operations

RONALD W. WOLF
ARMY MEDICINE

Military personnel who deployed during Operation Iraqi Freedom, or OIF, Operation Enduring Freedom, or OEF, or Operation New Dawn, or OND, were commonly exposed to airborne hazards such as dust and smoke, Army Medicine researchers say.

Some may have developed respiratory diseases and still have medical consequences as a result.

"We see this naturally occurring particulate matter as a potential cause of short-term, primarily irritant effects on the respiratory system," said Coleen Baird, a physician who heads the U.S. Army Public Health Command Environmental Medicine Program. "It is an open question whether geologic sources of pollution are causing more serious and long-term illness."

While service members have expressed concern about the health effects associated with breathing air in the CENTCOM region and especially with exposure to smoke from burn pits, scientific results to date are mixed.

"We know that upper respiratory effects due to inhalation exposures have occurred," explained Baird. "These include sore throat, cough, eye irritation, runny nose and other cold-like symptoms. We also know that we have seen a small increase in asthma rates, and that chronic respiratory conditions such as asthma and chronic bronchitis may be worsened. The development of constrictive bronchiolitis, which may result in shortness of breath, has been seen in a small series of individuals, but has not been clearly associated with deployment."

STAMPEDE

Army Medicine researchers are continuing to investigate possible long-term effects of this exposure, and need your help.

Col. (Ret.) Michael J. Morris, M.D., San Antonio Military Medical Center, is the lead investigator for the Study of Active Duty Military for Pulmonary Disease Related to Environmental Deployment Exposures, also known as STAMPEDE.

Morris and his team need volunteers who deployed to OIF, OEF, or OND, developed respiratory symptoms while deployed, and who still show these symptoms to assist with a research study. The STAMPEDE team aims to enroll 300 patients (from any branch of military service).

The following are study eligibility requirements for individuals who would like to be considered for STAMPEDE:

1. Deployment to OIF/OEF/OND on active-duty status;
2. Developed chronic respiratory symptoms during or soon after deployment;
3. Can exercise on a treadmill;
4. Had no history of pre-existing lung disease before deployment;
5. Are able to spend a week in San Antonio for testing procedures;
6. Can provide civilian or Veterans Affairs, or VA, medical records (if available).

Participants enrolled in the study will undergo a standardized testing protocol to include: surveys, blood work, chest imaging, echocardiography (examination of the heart), several different breathing tests, exercise testing, laryngoscopy (vocal cord examination), and bronchoscopy (airway examination).

While there is no guarantee of benefit from joining the study, it is possible that participants will benefit from identification and evaluation of shortness of breath and learning if any lung disease related to deployment is the cause of this shortness of breath.

The ongoing research of Morris and his team is important because active-duty personnel still deploy to areas where exposure to particulate matter from dust, sand storms, burn pits, explosions and vehicle exhaust is common. This research may help build the knowledge base needed to treat Service members and veterans more effectively in the future.

A number of medical studies already have looked at the consequences of exposure to airborne dust and smoke from burn pits among Service members, going as far back as the first Gulf War. In the 1990s, the possible consequences of exposure to oil fires in Kuwait were considered. More recent studies conducted since 2000 were unable to clearly link exposure to airborne particulate matter to long-term chronic respiratory disease.

The matter is not closed, however, and Morris and his team of experts on respiratory disease are investigating the causes and effects on individual health and how to provide the best care for those who continue to deploy where airborne particulate matter is common.

Active-duty and Reserve personnel outside of the San Antonio area can contact (see information below) the Pulmonary Clinic at the San Antonio Military Medical Center to discuss possible enrollment in the study. If a patient is accepted to the study, they must obtain permission from their unit, which will be responsible for the travel and lodging costs.

Personnel who deployed during OIF/OEF/OND and are no longer active duty (retirees and veterans) with TRICARE eligibility, will also be considered for the study. The individual will be responsible for any travel and lodging costs.

Individuals who wish to be part of the study can be evaluated at the either of two study sites: San Antonio Military Medical Center or Walter Reed Military Medical Center in Bethesda, Maryland.

STAMPEDE staff at the San Antonio Military Medical Center can be reached at the following telephone number: 210-916-3976. At the Walter Reed National Military Medical Center in Bethesda, the telephone number is 301-295-4191. ▲

(Jane Gervasoni, USAPHC, contributed to this story.)

Army scientists collaborate to investigate toxicology

LISA L. MORRIS
ARMY MEDICINE

PERCHLORATE IS A COMMONLY USED OXIDIZER NECESSARY FOR SOLID ROCKET ENGINES AND SOME PYROTECHNICS. As extensive as its use is, an increasing number of studies show perchlorate contamination can have negative effects on the environment and human health. It inhibits the function of the thyroid when individuals are consistently exposed at part per billion levels through the drinking water.

The U.S. Army Public Health Command, Toxicology Portfolio has been working with developers at the Armament Research and Development Center to find a replacement for perchlorate that is less toxic and less mobile in the environment. One proposed replacement is periodate, explained Dr. Mark Johnson, Toxicology Portfolio director.

"Periodate has been evaluated by the Toxicology Portfolio in studies to address human health concerns and make a recommendation in the form of a Toxicity Assessment. However, inhibitory effects to the thyroid are best evaluated using a sensitive model species," Johnson said.

The U.S. Army Center for Environmental Health Research at Fort Detrick, Maryland, has partnered with the USAPHC Toxicology Portfolio to conduct tests using the African clawed frog (Xenopus laevis) to investigate the potential for adverse thyroid effects. The transition from tadpole to adult frog is a transformation that requires optimal thyroid function. Therefore, a test using this species is an optimal model to investigate this possibility for this replacement compound.

USACEHR scientists will conduct an Amphibian Metamorphosis Assay to determine any toxic effects of periodate on the normal functions of the hypothalamic-pituitary-thyroid axis, which is part of the endocrine system responsible for metabolism and metamorphosis.

The AMA is a well-studied screening protocol used to evaluate chemicals that potentially interact with the estrogen, androgen or thyroid systems, and the only assay that detects thyroid activity in an animal undergoing morphological development.

The Environmental Protection Agency uses the AMA as part of a larger Endocrine Disruptor Screening Program to help with regulatory decision-making.

The EDSP was formed as a result of the Food Quality Protection Act and the Safe Drinking Water Act amendments in 1996 in an effort to identify chemicals that produce negative effects on the endocrine system, potentially leading to diabetes, thyroid disease, growth disorders and more.

The USACEHR's role in the study itself includes an extensive preparation period and three 21-day test periods, all of which will take approximately one year to complete.

"We're really looking forward to this because within the USAMRMC, we're the only lab with this capability," said Col. Thomas Timmes, USACEHR commander. "We have a very unique aquaculture mission."

The USACEHR's unique aquaculture facilities allow their scientists to house and study frogs as opposed to other USAMRMC labs that may study rodents or other small mammals.

With other USAMRMC labs attracted to the USACEHR's unique capabilities, the USACEHR will invite other veterinarians to visit and learn from the study. ▲

Jane Gervasoni, USAPHC, contributed to this story.

The U.S. Army Center for Environmental Health Research will house African clawed frogs to study toxicity levels in periodate, a compound that could be used to replace perchlorate. (Photo courtesy USACHEUR)

Soldier's resilience inspires those he meets

CHANEL S. WEAVER
PUBLIC AFFAIRS OFFICE

THREE YEARS AGO, SPC. RYAN WALTNER HAD MANY REASONS TO BE HAPPY. HE WAS MARRIED TO A TERRIFIC WOMAN, HE AND HIS WIFE WERE EXPECTING THEIR FIRST CHILD AND HE WAS ON THE VERGE OF BEGINNING AN EXCITING ARMY CAREER.

"I was working as a retail sales associate and as an assistant paralegal, and I just wanted a change," said Waltner. "I finally felt like I was going to do something meaningful with my life."

But then something unexpectedly changed.

Waltner's daughter was born with a complex congenital heart defect, and was told that she would need several surgeries to survive. Her first open heart surgery would be scheduled just 13 days after she was born. To further complicate matters, Waltner had an obligation to attend basic training at Fort Sill, Okla., just four days after his daughter was born, which meant he would not be around to see his little girl come through the operation.

"It was a very difficult time," said Waltner. "Life was not going the way we had planned it."

While these circumstances might cause some people to fold under pressure or bury their head in the sand, it wasn't an option for Waltner and his wife.

"We had to be strong for our little girl," said Waltner. "We decided to keep moving forward, and to take one day at a time."

This optimistic attitude seemed to pay off.

"My basic training instructors allowed me to call home once a day to check on the status of my daughter," said Waltner.

Back in New York, his wife was surrounded by her family who supported her through the child's surgery. His wife kept him up to date by sending photos of his precious child.

Eventually, his daughter would make it through the surgery, but she was not out of the woods yet.

"The doctors informed us that her heart would have to be closely monitored, and that she would most likely need more surgeries in the future."

Soon, Waltner received his first assignment to work at Public Health Command Region–North. In his new job as a veterinary food inspection specialist, he was responsible for inspecting the dining facilities, fast-food establishments, child care facilities and commissaries on post to ensure the food delivered to military beneficiaries was safe.

"A lot of the work I performed was behind-the-scenes," said Waltner, "but it is an important mission. We work every day to keep our service members safe and healthy and to ensure that they receive a quality product."

As things progressed professionally for Waltner, he still had battles at home.

His daughter needed two more open heart surgeries, and she was only two years old.

Waltner and his wife decided to think positively.

"We didn't cry, because crying wouldn't help the situation," said Waltner. "We figured we would be the best parents we could be."

The Waltners and another heart family organized a support group on post for military families who have children that suffer with heart conditions.

"The group meets once a month, and has grown to five families who encourage and support each other," said Waltner.

Additionally, Waltner motivated the members of his unit to participate in a local heart walk, sponsored by a non-profit organization committed to helping individuals maintain a healthy heart.

Waltner's work on post has not gone unnoticed by his co-workers. In the Army, it is typically the leader who serves as a role model for subordinates, but Waltner's personal courage actually inspired his leaders.

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The Waltners pose with their two daughters. Their oldest daughter was born with a complex congenital heart defect, but the Waltner family's perseverance through adversity has helped her survive several heart surgeries. (Photo courtesy Spc. Ryan Waltner)

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"When I found out about his daughter's condition, I wondered how he was able to complete all the tasks he is given," said Staff Sgt. Christopher Stitcher, who serves as Waltner's supervisor. "He is a true example of not just bouncing back from adversity, but overcoming it."

Within the USAPHC, Waltner is described as a driven Soldier, who strives to be the best. He was named the 2013 Soldier of the Year for Fort Knox, and he recently received the MEDCOM Sergeant Major Coin of Excellence for his resiliency. He has received several other military awards throughout his career.

Although she has encountered several health challenges, Waltner's daughter is an energetic, three-year old. Additionally, he and his wife welcomed their second daughter in November.

Despite the challenges he has faced in life and the many obstacles he has encountered, Waltner is as excited about his potential as he was three years ago.

"I am hoping to become an officer in the Army, and I look forward to making the Army a career," said Waltner. "I love the Army, and I love our mission to protect and defend our nation no matter the cost. It was the Army that taught me how to be resilient." ▲