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Learning to Care for Those in Harm's Way

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A novel gene alteration tied to aggressive prostate cancer in African American men

By Sharon Holland

It is well established that prostate cancer is more prevalent in African American men when compared to men of other ethnicities. There has been a premise that a combination of genetics, lifestyle, nutritional and medical access reasons led to the significant statistical difference.

However, in their study titled, “A Novel Genomic Alteration of LSAMP associates with Aggressive Prostate Cancer in African American Men,” published in *EBioMedicine* (<http://www.sciencedirect.com/science/article/pii/S2352396415301870>), researchers from the Uniformed Services University of the Health Sciences (USU), Walter Reed National Military Medical Center, DoD’s Joint Pathology Center (JPC), Dana-Farber Cancer Research Institute (DFCI), Genomatix GmbH and CytoTest, Inc., found some distinct genomic variations that also could be to blame.

The genes studied were those associated with early stages of prostate cancer development and progression. In African American men with rapid disease progression, researchers, co-led by Drs. Shiv Srivastava (USU), Albert Dobi (USU) and Matthew Freedman (DFCI), noted that a tumor suppressor gene, LSAMP, was missing from a key chromosome. The authors contend that this might, in part, explain some of the more aggressive cancers seen in African American men. In contrast, Caucasian men with similar types of prostate cancers showed much lower frequency of LSAMP alterations but higher frequency of two widely studied prostate cancer driver genes, ERG and PTEN.

The USU, Walter Reed

Bethesda and JPC collaborative team, through comprehensive evaluations of matched cohorts of African American and Caucasian American prostate cancers, previously established a higher frequency of ERG alterations in Caucasians (50-70%) and its significantly lower frequency in African Americans (20-25%). These intriguing observations actually provided the rationale for the current study focusing on whole genome evaluations of prostate cancers from these two patient populations.

These findings reveal differentially distributed somatic mutations in prostate cancer across ancestral groups, and affirms the need for future evaluations of cancer genomes in global context with important implications for precision medicine strategies.

“This highly collaborative study was made possible due to complementary expertise of investigators from different institutions. Equally significant were long-term biospecimen banks and multi-center database of the Center for Prostate Disease Research (CPDR) at USU and Walter Reed-Bethesda that comprises a high proportion (25%) of African American men treated for prostate cancer in the equal access Military Healthcare System. The new emerging knowledge on ethnicity-associated differences of the prostate cancer genome and perhaps other cancers needs more research and has promising potential to enhance the repertoire of new biomarkers and therapeutic targets that may benefit all patients,” said Srivastava. “Given the recent availability of next-generation sequencing opportunities at USU, we will be able to accelerate our research in this direction.”

**On the cover**

Students in their post-clerkship at the F. Edward Hebert School of Medicine (SOM) at the Uniformed Services University of the Health Sciences (USU) perform Advanced Cardiac Life Support (ACLS) skills during high fidelity ACLS simulation training and re-certification at the Val G. Hemming Simulation Center at USU, Feb. 19. A student volunteer instructor (far left) observes and grades the student team lead as they work through a simulation scenario. See story on page 5. (photo by MC3 Laura Bailey)

Children with Autism at Increased Risk for Ear Infection Complications

by Sharon Holland

Children with Autism Spectrum Disorders (ASD) are twice as likely to experience complications from ear infections, according to a new study published online in the *Journal of Autism Developmental Disorders*, "Otitis Media and Related Complications Among Children with Autism Spectrum Disorders," Jan. 6, 2016.

The study, conducted by a team of scientists with the Uniformed Services University of the Health Sciences (USU) and Walter Reed National Military Medical Center pediatric clinical research group in Bethesda, Md., along with collaborators from Madigan Army Medical Center, Tacoma, Wash., and the Naval Medical Center in Portsmouth, Va., sought to evaluate the association between ASD and otitis media. Acute otitis media (AOM) symptoms can be masked by

communication deficits, common to children with autism spectrum disorders (ASD). Using ICD-9-CM diagnostic codes, the researchers, who included Maj. (Dr.) Cade Nylund, Ms. Apryl Susi, Capt. (Dr.) Gregory Gorman, Dr. Elizabeth Hisle-Gorman, Col. (Dr.) Christine Erdie-Lalena, Lt. Cmdr. (Dr.) Marilisa Elrod, and Maj. (Dr.) Daniel Adams, performed a retrospective case-cohort study comparing AOM, and otitis-related diagnoses among children with and without ASD.

Children with ASD had a significantly increased rate of AOM, otitis media with effusion, otorrhea, and PE tube placement. Children with ASD were more than twice as likely to develop mastoiditis, and to undergo mastoidectomy and tympanoplasty. The team concluded found that children with ASD are more likely to have middle ear infections and otitis-related complica-

tions, highlighting the importance of routine middle ear examinations and close attention to hearing impairment in this population.

"A key take-away is that children with autism are a unique and susceptible population. I suspect the increase rate of ear infections may be linked to a lower vaccination rate for pneumococcus and influenza in children before or after they are diagnosed with autism and may be an indicator of the adverse effect of the popular myth that vaccination leads to or may worsen autism," said Nylund, an assistant professor of Pediatrics at the USU. "The increased rate of mastoiditis is a clear indicator of delayed or missed ear infections, which highlights the difficulty in caring for children with autism who so often have difficulties communicating pain or cooperating with exams. An astute patient provider can overcome such obstacles for these children."

Mabry to join House Energy and Commerce Committee

By Sharon Holland

Army Lt. Col. (Dr.) Robert Mabry, a graduate of USU's F. Edward Hébert School of Medicine class of 1999, has joined the staff of



Army Lt. Col. (Dr.) Robert Mabry. (Photo courtesy of the Robert Wood Johnson Foundation)

the House Committee on Energy and Commerce.

The Committee is the oldest standing legislative committee in the U.S. House of Representatives and is responsible for the country's telecommunications, consumer protection, food and drug safety, public health research, environmental quality, energy policy, and interstate and foreign commerce. Mabry, who is currently serving as a Robert Wood Johnson Fellow, will work side by side with Committee staffers and legislators to help shape health-care policy.

"It's the staff behind the scenes that are the lifeblood of congressional committees, and this is certainly true of the Energy and Commerce Committee," said House Energy and Commerce Committee Chairman Fred Upton (R-MI). "We

are also delighted to welcome Dr. Robert Mabry, whose record of service as a Green Beret in the military is beyond remarkable – from Mogadishu during 'Black Hawk Down' to several tours in Afghanistan, we are lucky to have a true hero on the team. We've got a great staff that has us well positioned to build upon our bipartisan record of success in 2016."

"The Robert Wood Johnson Health Policy Fellowship is the premiere health policy leadership program in the Nation," said Mabry. "The Military Health System will face increasingly complex challenges going forward. I felt this would be an incredible opportunity for me to further develop myself as a MHS leader and see how complex health-care policy challenges are tackled at the national level."

Kostas-Polston helps lead charge against HPV-related cancer

By MC3 Laura Bailey

Elizabeth Kostas-Polston, an assistant professor at the Daniel K. Inouye Graduate School of Nursing (GSN) and the principle investigator of a Department of Defense funded research project at the Uniformed Services University of the Health Sciences (USU), is tackling Human Papilloma Virus (HPV) related oral cancer head on.

The project, funded in 2015, focuses on assuring the effective translation of knowledge for new approaches to health promotion, disease prevention and the diagnosis, treatment and management of HPV-related cancers.

Along with colleagues from Walter Reed National Military Medical Center as well as the John P. Murtha Cancer Center, Kostas-Polston is working to find answers.

“Our understanding of HPV-caused oropharyngeal cancer is limited,” said Kostas-Polston. “We do not understand the biology well nor do we have clinical screening guidelines. Further, and unbeknownst to most, HPV-caused oropharyngeal cancer is most prevalent in men.”

The virus is most often regarded as a women’s health issue, when in fact, it is not, she said. Nearly all sexually active individuals, including men and boys, will become infected with one or more strains of the HPV virus at some point in their lives.

“Education and prevention are critical,” said Kostas-Polston. “Educating men is paramount to

accessing health care. For the most part, it is a cultural norm for women, from a very early age, to regularly see a health care provider. It’s just what we do—we get into the habit early on. Men, on the other hand, do not typically see a health care provider anywhere near as often. This is evidenced in that women are the primary consumers of health care. It is critical that we reach out to men and encourage them to, together with their health care provider, be proactive about their health. We’re looking at what is the best approach to getting the word out to men,” said Kostas-Polston.

In addition to establishing better education practices, the project seeks to identify better methods for screening that match those of today’s cervical cancer screenings, she said. In fact, health care providers have done such a great job with cervical cancer screening that it is estimated that HPV-caused oropharyngeal cancer will become the most commonly occurring HPV cancer in the next few years. In clinical settings, they are already seeing evidence of a growing number of cases. The increase in cases is due in part to the way the virus works.

“Symptoms associated with HPV-caused oropharyngeal cancer are usually non-specific,” said Kostas-Polston. “Those with persistent infection may go undiagnosed for years or even decades. Unfortunately, by the time an individual presents to the clinic, the cancer has progressed; often to an advanced stage. Although the ma-



Elizabeth Kostas-Polston, assistant professor at the Daniel K. Inouye Graduate School of Nursing (GSN) at USU. (Photo by Tom Balfour)

ajority will ‘clear’ the virus, a subgroup of all those infected will not. The risk for developing an HPV-related cancer in men and women increases when the virus persists.”

HPV is a very complex virus, she said. Right now, there is no way to know who will develop cancer caused by HPV infection, but perhaps with time and ongoing research efforts, she and others on the project can find the answers to one of the most common sexually transmitted diseases.

“We have the expertise and the technology to accomplish these lofty goals; I believe what we are looking for will be found in existing technologies,” said Kostas-Polston. “We simply need to identify what works best for good health outcomes.”

USU students volunteer time for ACLS

By MC3 Laura Bailey

Students at the F. Edward Hébert School of Medicine (SOM) at the Uniformed Services University of the Health Sciences (USU) volunteered their expertise during the Advanced Cardiac Life Support course at the Val G. Hemming Simulation Center (SIMCEN), Feb. 19.

“We sent out an email to our students a few weeks ago requesting volunteers to teach ACLS,” said Air Force Col. (Dr.) Rita DuBoyce, the senior director of clinical education at the SIMCEN and an assistant professor of medicine. “We know a lot of our students have prior experience in emergency and medical fields and their willingness to volunteer really helps out our faculty who are already very busy teaching other classes. Their experience is perfect for helping their less experienced peers who, having just returned from their clerkships, need to brush up on ACLS as well as recertify.”

After a year of clinical rotations and possibly having seen real-life cardiac events in the hospitals where the students completed their clerkships, the students are going through the ACLS course again, but with more experience under their belts, said Army Lt. Jason Ausman, a third-year medical student at USU and one of the ACLS student volunteer instructors.

“As ACLS instructors, we’re grading the team lead during simulated scenarios,” said Ausman. “We’re looking for that team leader to really delegate tasks, make sure that everybody is working together and knows what they’re supposed to be doing.”

“During an emergency situation, you’ll have one person on the defibrillator, another person is do-

ing compressions and airway, someone else is focused on medications – but the team lead is like the conductor of the whole orchestra,” said Navy Ensign Erin Mack a third-year medical student at USU and a student volunteer instructor.

“They’re the one person whose only task is to take a step back and see the overall picture. They’re calling the shots and communicating back and forth with each team member from start to finish. So, they have to know how to manage a lot all at once while keeping a cool head. It’s not as easy as it might look on TV and it takes a lot of practice.”

“We trained for these kinds of scenarios regularly,” said Ausman as he recalled his more than eight years as a civilian paramedic in Ft. Myers, Fla. “We used our training to save real people. I was also an instructor at a paramedic school and used to teach students how to run through these exact same situations and how to take care of people in the field.”

He and his fellow instructors hope that their peers will benefit from the graded refresher course and come away from it feeling more confident.

Repetition through training

is the key to becoming confident in any skill including ACLS, said Ausman. With experience and practice comes the ability to perform a task as if it were second nature and then the ability to teach it to others.

“I was an emergency medical technician for five years with the Air Force prior to enrolling at USU,” said Air Force 2nd Lt. Jeremy Brenneman, a third-year medical student at USU and ACLS student volunteer instructor. “Before I joined the Air Force I was a civilian firefighter for another five years in Wilmington, N.C. With 10 years of experience working in emergency situations, I’m very familiar with ACLS and feel very confident that I can help my peers really get it down. I was excited to volunteer as a student instructor because I’m looking to go into emergency medicine. This [ACLS] is right up my alley.”

“Watching the student volunteer instructors help their peers is really amazing,” said DuBoyce. “They really do know their stuff and it’s really amazing to see them step into this role of instructing. It will be interesting to see them once they are in their residencies and I have high hopes that they will continue to grow as leaders and mentors.”



The student teams performed several drills designed to measure their skills during the ACLS. Student teachers were on hand from USU to monitor the drills. (Photo by MC3 Laura Bailey)

USU staffer shares benefit of non-profit pet sitters

*Courtesy of Hannah Troyer
Editor, Andrews Gazette, JBA*

It was love at first sight.

Navy Mass Communication Specialist Third Class (MC3), Laura Bailey, finished breakfast at the Southside Diner in Baltimore when she saw him – an energetic, lovable pit-bull mix up for adoption through a mobile adoption facility.

“The rest is history. He is a love,” Bailey said. “I walked over to him and he pretty much just leaned into me. He’s just the sweetest dog; and he was so sweet when I first met him. He’s even sweeter now that we’ve gotten to know each other and build that trust, but he just stole my heart.”

But Sam, as he is now affectionately called, was not planned. Bailey was set to leave for three weeks of training in October in a mere two months. Bailey would support a two-week training exercise called Operation Bush Master, a combat zone readiness training military medical students at The Uniformed Services University of the Health Sciences participate in once a year.

With no close family members nearby, Bailey decided to deploy Sam — to Germantown, Md.

While trying to figure out what to do with Sam for three weeks, Bailey remembered a commercial featured on the Armed Forces Network for Dogs on Deployment – a nonprofit that helps single servicemembers place their dogs or cats with boarders at no cost for the duration of their training or deployment.

Bailey made an account with the website and determined what she was looking for in a possible boarder for her furry family member – a person who would make him feel safe, loved and a part of the family.

“I really didn’t know much about it, but I didn’t really have anything to lose at that point, Bailey said. “I looked into it and it sounded almost too good to be true. It didn’t cost any money. Honestly, I didn’t know what to expect really. I registered hoping for the best and got a message from Karen.”

Karen White, Germantown, is the Rockville coordinator for Dogs on Deployment and a registered boarder. She had been a part of the organization for a few years but never boarded a dog until Sam.

“I felt like it was something I needed to do,” White said. “When you register to be a boarder you don’t ever have to take an animal, but you see the animals in need in your area that you can do a search criteria for. She was close, needed it and it felt like I needed to just do it.”

Following Dogs on Deployment protocol, the two women talked and scheduled a meet-and-greet to determine how Sam got along with Karen, her husband, Bob, and their dogs.

Bailey said she was put at ease and felt that Karen and Bob were the right people to care for Sam.

“When I walked into their house, it was really welcoming, but they also really seemed to know

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Dog on Deployment Rockville Coordinator, Karen White, laughs with Dogs on Deployment member, MC3 Laura Bailey and her dog, Sam. Bailey used the pet foster program when she participated in last year’s Bushmaster (Photo courtesy of Hanna Troyer, Andrews Gazette, JBA)

what they were doing with dogs,” Bailey said. I wanted someone who had dog experiences because it’s one thing to call a friend and have them watch your dog. It’s another to leave them. Since they had dogs, I knew they would know exactly what to do with him.”

A contract was signed between the two parties that outlined what to do in certain circumstances so no questions were left unanswered during the three weeks. Sam felt at ease, too.

“He was a part of our family for three weeks. He slept in the bed with my husband and I and the other dogs and snored away with everyone else and couldn’t have been happier,” White said.

Sam is one of more than 850 dogs nationwide that have been successfully deployed through Dogs on Deployment since its creation in 2011 by a dual military couple.

Monica Ruiz, Falls Church, Va., has boarded five of the 850 dogs and has been a boarder since Nov. 2012 when her own dog had to be put down. Ruiz’s deployments range from one to nine months and is currently boarding a German Shepard for a service member. The deployment is scheduled to last a year.

Ruiz shares the same sentiment as White when it comes to bonding with the boarded pets – and their family members.

“Being a volunteer boarder has been one of the best things of I’ve done in my life,” Ruiz said. “It’s really hard to say goodbye to a dog who has become such a huge and important part of my life. But, seeing the joy on the owners’ faces and the excitement of the dogs to be with their people again makes it all worthwhile. The joy of that reunion



MC3 Laura Bailey snuggles with her dog, Sam, in her home as often as she can when she doesn’t leave for training. (Photo courtesy of MC3 Laura Bailey)

– and knowing that I’ve played a part in making it possible – is why I do what I do.” While the three’s deployment processes went seamlessly, too often, service members are unaware of the service the organization provides.

“You see all the time someone serving turning in a pet into a shelter, and it just breaks your heart because once they relinquish ownership of their animal there’s not much we can do about it,” White said. “But if they had known about us beforehand, we could have helped them.”

As a coordinator, White spends lots of time attending local events to get the word out and raise donations for the organization. White, Bailey, and Ruiz realize the organization is “definitely filling a need” and “takes a huge weight off service members shoulders,” according to Ruiz.

“Pets are family. And especially for us single folks, our friends go off on deployments and they

leave their (spouses) and children behind and that’s tough,” Bailey said. “But they get to come home to them. Us single folks come home to sometimes a dog or a cat. And he is my family.”

Since Sam’s deployment, White and Bailey haven’t been able to hang out in person, but are now Facebook friends and keep tabs on each other’s everyday lives.

If she were to deploy or go through weeks of training again, Bailey said she would chose Karen again “in a heartbeat.”

“I don’t think any of the boarders sign up to do it to be anything but supportive of the troops,” White said. “You’re doing it for the pure love of country, man and dog. It’s corny, but it’s true.”

“It’s a huge service for the country- putting their lives on the line — and I just think the least you can do is watch their dog or cat. They should be able to come home to everyone they love.”

Final Frame

Dancing Docs



Students at the F. Edward Hebert School of Medicine (SOM) at the Uniformed Services University of the Health Sciences (USU) learn how to salsa dance at a Dancing Docs instructional class at USU. Dancing Docs is a social group at USU run by SOM students and encourages social enrichment through dance. (Photo by MC3 Laura Bailey)