



THE INNOVATOR

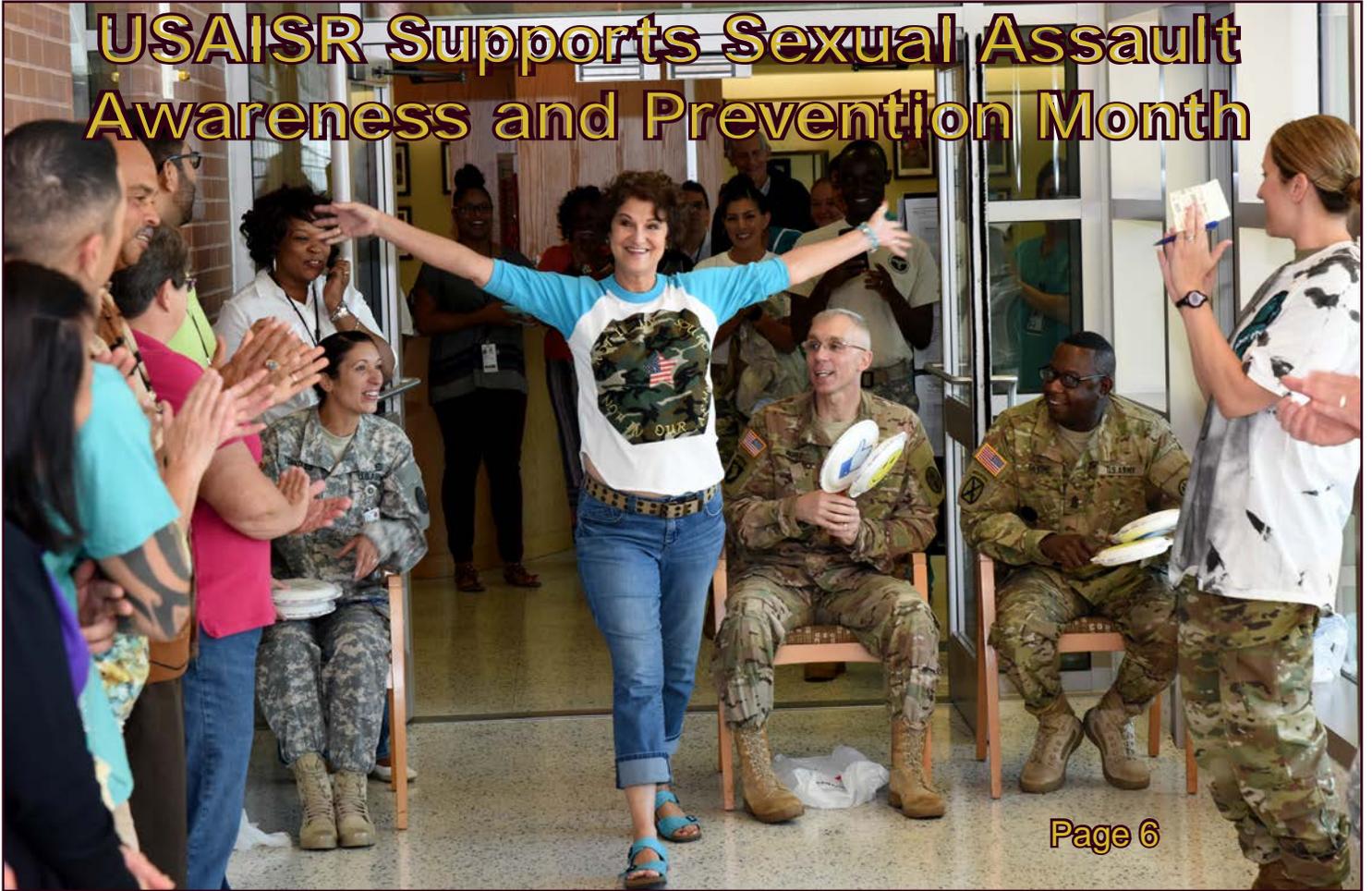
OPTIMIZING COMBAT CASUALTY CARE



MAY 2016

THE NEWSLETTER OF THE U.S. ARMY INSTITUTE OF SURGICAL RESEARCH

USAISR Supports Sexual Assault Awareness and Prevention Month



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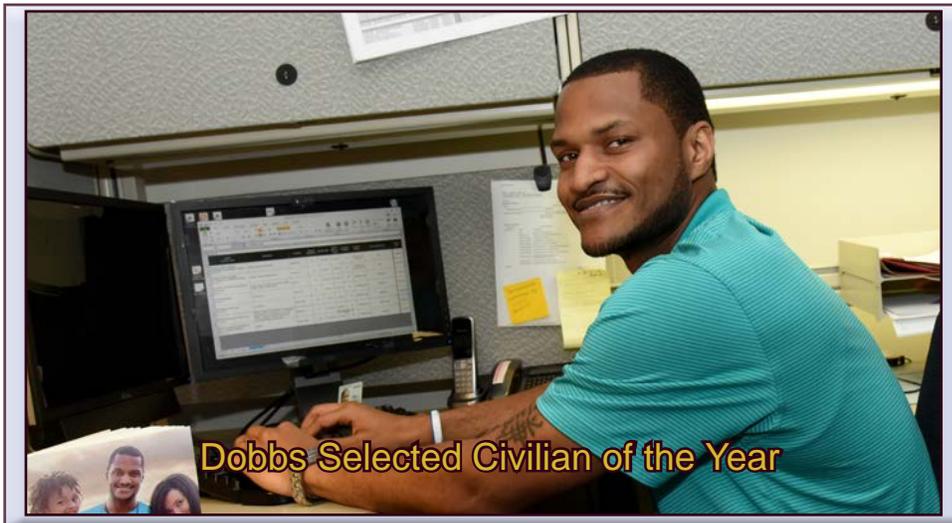
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Dobbs Selected Civilian of the Year

CDR's Corner



Col. (Dr.) Michael D. Wirt
Commander, USAISR

"Optimizing Combat Casualty Care"

Greetings ISR,

As always, there's a lot happening at the ISR at every aspect of our operation and everyone here continues to amaze me with your diligence, motivation and dedication to your work. I'd like to start off by saying a heart-felt "thank you" for everything that you do here every day. You have amazed me with your efforts to optimize combat casualty care from day one and you continue with a relentless drive to improve the outcomes of our brave men and women who are wounded on the battlefield. While the casualties from overseas contingencies continue to remain low, the need for research directed at combat wounded remains relevant. Keep up your efforts because what you do every day is necessary for our troops and their families.

Next I would like to congratulate our Civilian of the Year, Mr. Brandon Dobbs. This recognition for him is a

well-deserved one. Mr. Dobbs has made some vast improvements to our travel process and especially for travel orders when it comes to our Burn Flight Team. Congratulations to Mr. Dobbs for a job well done!

The most important thing that I would like to address is sexual harassment and sexual assault prevention in the Army and Department of Defense. During the first week of April I signed a proclamation to kick-off the 2016 Sexual Assault Awareness and Prevention Month. Even though this is an annual observance that is nationally observed during the month of April, we all need to all do our part in supporting this year's annual theme of "Eliminate Sexual Assault: Know Your Part. Do Your Part" and eliminate this problem within the DoD. It all starts with you and your role to ensure that you uphold the Army's core values. This is a problem that we can eradicate, but it will take the effort of every one in order to make this issue disappear. Do your part to fight this crime by supporting an environment that doesn't tolerate this and stops this criminal act. Everyone can make a difference to be part of the solution. This awareness doesn't end in April, it's a 24/7 adherence that should be complied with year round.

The month of May brings with it several monthly observances that are health related like: ALS, Arthritis, Asthma, Healthy Vision, and Lupus



Col. (Dr.) Michael Wirt cuts a birthday cake April 18.

Awareness, just to name a few. In May, we will cohost the Asian American & Pacific Islander Heritage Month celebration with BAMC. More details will be out once the details of the ceremony are worked out. Some of the weekly observances are: National Family Week; Public Service Recognition Week and National Nurses Day and Week. A few daily observances include: Yom HaShoah, also known as Holocaust Remembrance Day which is observed on May 4; Military Spouse Appreciation Day on the 6th; Mother's Day on the 8th; and Armed Forces Day on the 21st.

Once again, thank you for all that you do every day at the ISR—you efforts do not go unnoticed.

Hooah!
Army Strong!



ARMY MEDICINE
Serving To Heal...Honored To Serve

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SGM Says



Sergeant Major
James L. Devine

Greeting Team ISR,

Another calendar month has past and the month of Mother's Day looms. Congratulations to The Basic Leadership Course graduates: Leadership Awardee: Spcs. Alexander Dixon and Robert Sadowski and Advanced Leadership Course graduates: Sgts. Jamar Daniels, Zeyar Htut and Chiquita Thomas-Benson. Thank you for your commitment to excellent and the mission. You ensured that your mental and physical readiness was on par to meet the requirements for the NCO-PDSs. In preparation for the next level it is definitely a requirement.

Medical readiness is key to the Army Chief of Staff's and Sergeant Major of the Army's number one priority, "Readiness". Your medical readiness affects your deployability. According to SMA Dailey, The biggest problem in the Army today is Soldiers who are non-deployable, and that's having a direct impact on readiness. He said this construct is unsustainable in the complex operational environment that exists today. To give you a picture of how big the problem is, there are currently about 50,000 Soldiers who are non-deployable. That's equal to three about divisions. And we only have 10 divisions in inventory.

This makes it difficult to accomplish our mission being to fight and with our nation's wars. The mission applies to all Soldiers both officers and enlisted.

"If you will not or cannot fight and



Sgt. Maj. James Devine, right, congratulates Sgt. 1st Class Dustyn Rose at his promotion ceremony April 4 as his daughter looks on.

win, then there's no place for you in the Army," Dailey said, "We have to become unemotional about this. We have a job to do." Dailey said he's doing something about it. He's proposing to the Army's chief of staff that in the future, there should be a box to check on the Soldier's evaluation form, indicating if that Soldier is deployable. Under his proposal, Soldiers with long-term medical profiles would be critically evaluated against their ability to recover and be deployable if called. He also wants to incentivize deployments by increasing deployment pay.

Another one of the SMA's problems is leader development. Some not all NCO Academies are still using old standards of multiple-choice testing and rote-memory drills in training, instead of training leaders to be critical thinkers. The other reason is because NCOs shy away from attending the NCOPDS commensurate to the rank that they are currently holding. But the select- train-educate-promote or STEP program is fixing that. The culture is vastly changing and NCOs are realizing that if they do not attend the courses, they WON'T get promoted regardless of the number of promotion points they have. And if they can't get promoted they will be forced out of the Army.

Thank you for what you do to Conserve the Fighting Strength and Combat Casualty Care. "Trained to Lead" "Lead the Way". Army Strong!

On the Cover



Rosann Berg displays the T-shirt that she created as part of the 2016 Sexual Assault Awareness and Prevention Month activities held during the month of April at the U.S. Army Institute of Surgical Research April 22. Berg won first place from eight entries that were judged in the T-shirt creation contest. Other activities that USAISR staff participated in during the month of April to support SAAPM were a Sexual Harassment and Assault Response and Prevention Leader Professional Development session and Denim Day.

Company Notes



Company Commander
Capt. Jose A. Juarez

First Sergeant and I would like to welcome the following Soldiers to the ISR family: Master Sgt. Craig Anderson, Pfc. Cesar Parra, and Pvt. Uzziel Pineda. Please welcome these folks into the ISR family, if you haven't already.

We would like to congratulate Sgts. Chiquita Thomas-Benson, Zeyar Htut, and Jamar Daniels for graduating from the AMEDD Advanced Leaders Course and Spcs. Alexander Dixon and Robert Sadowski for graduating from Basic Leaders Course at Fort Hood. Spc. Dixon earned the BLC Leadership Award and made the Commandants

List. These Soldiers represented the ISR well with their hard work and dedication. Job Well Done!! We would like to thank everyone who attended the graduations, great way to support and build our Team! Be sure to congratulate him when you see him around.

Congratulations to Pfc. Tyler Everett and Kelechi Ozoukwu for their promotions to Specialist for April 2016! Please congratulate these Soldiers when you see them around. Great job and well done!!

We held our NCO and Soldier of the Month competition for April. And the winners are Sgt. Jessica Williamson and Spc. Ashley Taylor. Please congratulate these leaders on their enormous success! Their photographs will be on display in the company area.

We want to thank and congratulate everyone who took the Semi-Annual APFT this month. The attendance and pass rates were substantially greater than October's Semi-Annual APFT. That's a testament to the hard work, dedication, and pride that you all have displayed over the last six months. We are truly humbled and pleased with everyone's efforts and look forward to continuing the theme of "Building the Team" at the ISR. Great Job ISR!

Upcoming events: Holocaust Days of Remembrance Commemoration (Fort Sam Houston Theater, 1200). The month of May also brings us many other events throughout the month. May 5 is Cinco de Mayo, which is the date, observed to commemorate the Mexican Army's unlikely victory over French forces at the Battle of Puebla on May 5, 1862. May 6 is designated as Military Spouses Day, so all you married folks, make sure and recognize your significant other on this day. May 8, is Mother's Day! This is probably one of the most important days of the year, on this day we celebrate all the Mothers. May 21 is Armed Forces Day and May 30 is Memorial Day, and 1st Sgt. and I have decided to give you all that day off, as a matter of fact we will give you all a four day weekend, May 27-30 will be an ISR four-day weekend. Enjoy!!

Continue to challenge yourselves and each other every day, step outside of your comfort zones by seizing new opportunities and taking that leap. Thank you all for everything you all do every day. It never gets old telling you all that it is truly an honor serving as your Commander and First Sergeant! Army Strong!



NCO of the Month
Sgt. Jessica Williamson

Soldier of the Month
Spc. Ashley Taylor



Around the Company

PROMOTIONS:

Top right: Staff Sgt. Brodbeck gets her Sergeant rank removed from her uniform by her daughter as her children and Staff Sgt. Floretta Drummond look on during her promotion ceremony April 1.

Bottom right: Col. (Dr.) Evan Renz, left, presents Col. Elizabeth Mann-Salinas with a Promotion Certificate during her promotion ceremony at the SAMMC Chapel April 1.

Left bottom: Sgt. Benjamin Joiner, left, pins the new rank on Spc. Kelechi Uzoukwu April 1.

Top left: Sgt. 1st Class Dustyn Rose has his new rank pinned on by his wife during his promotion ceremony April 8.



USAISR Commander signs proclamation to kick-off SAAPM during the month of April

Story and photos by Steven Galvan
USAISR Public Affairs Officer

The U.S. Army Institute of Surgical Research observed Sexual Assault Awareness and Prevention Month throughout April which kicked-off with the signing of a proclamation April 4 by the USAISR Commander, Col. (Dr.) Michael Wirt.

A portion of the proclamation signed by Wirt read: “We are committing ourselves to address this issue by preventing sexual harassment and sexual assaults from occurring through education, providing support for the victims, and prosecuting perpetrators. We at the USAISR have placed sexual harassment/assault awareness on the forefront and encourage each staff member to take a stand in the ‘Eliminate Sexual Assault, Know Your Part, Do Your Part’ campaign.”

According to Maj. Kristi Morris, USAISR Sexual Assault Response Coordinator and Chief Financial Officer it is important to observe April as Sexual Assault Awareness and Prevention Month to shine a light on a problem within the Department of Defense, Army, and our society as a whole.

“The Army has made major strides



Col. (Dr.) Michael Wirt signs a proclamation April 4 to kick-off the 2016 Sexual Assault Awareness and Prevention Month at the U.S. Army Institute of Surgical Research as Staff Sgt. Kevin Johnson reads the proclamation.

in recent years to increase awareness and prevention of sexual assault, but we still have a way to go,” said Morris. “April gives us a chance to really

increase our advocacy and outreach efforts, ensuring that all of our Army community members are aware of prevention efforts and resources available.”

Several events were held throughout the month to include a Sexual Harassment and Assault Response and Prevention Leadership Professional Development session; a T-shirt creation contest, and a denim day when staff members were encouraged to wear jeans to work in protest of an important Italian court case of sexual assault. For the t-shirt creation contest, staff members were asked to create a t-shirt that embodied this current Army SHARP theme “Not in MY squad. Not in OUR Army. We are trusted Professionals.”

The three judges for the t-shirt creation contest were Wirt, Sgt. Maj. James Devine and 1st Sgt. Natasha Tsantles. After a lengthy deliberation,

SAAPM continues on page 7



Col. (Dr.) Michael Wirt cuts a ceremonial cake April 4 to kick-off the 2016 Sexual Assault Awareness and Prevention Month at the U.S. Army Institute of Surgical Research as Staff Sgt. Melissa Arizmendi looks on.

SAAPM continued from page 6

the trio selected the T-shirt created by Rosann Berg the executive assistant at the Dental and Craniofacial Trauma Research and Tissue Regeneration task area.

“Incorporating the current Army SHARP theme for the t-shirt contest was a must because sexual assault and harassment prevention has to start and the lowest level of our military structure,” said Wirt. “Every entry was a winner, but unfortunately we could only select one first prize.”

Morris emphasized that people we can eliminate and prevent sexual assault and harassment by taking responsibility for themselves, as well as their friends and coworkers.

“By stepping up and speaking out against something that you see that just isn’t right, you have the power to potentially prevent a sexual assault—in your squad or section, in the ISR, and in our Army,” she said. “It is a huge responsibility and takes a tremendous amount of courage, but we all potentially have that power.”



April is Sexual Assault Awareness & Prevention Month



Top: Maj. Kristi Morris displays a T-shirt April 22 created by Brandon Dobbs for the T-shirt creation contest. Center: U.S. Army Institute of Surgical Research staff members pose for a photo April 27, Denim Day, to protest an important Italian court case of sexual assault.

Bottom: Eight staff members entered in the T-shirt creation contest that were judged April 22 with Rosann Berg’s T-shirt being selected first place. Left to right: Staff Sgt. Timothy Hair, Maj. Kristi Morris, Sgt. Mylah Joy Freeman, Audrey Premdas, Staff Sgt. Floretta Drummond, Rosann Berg, Spc. Melody Sandoval, and Spc. Michael Amoako.

Safety Notes

By Stephanie L. Truss
Health, Safety and Environmental Specialist

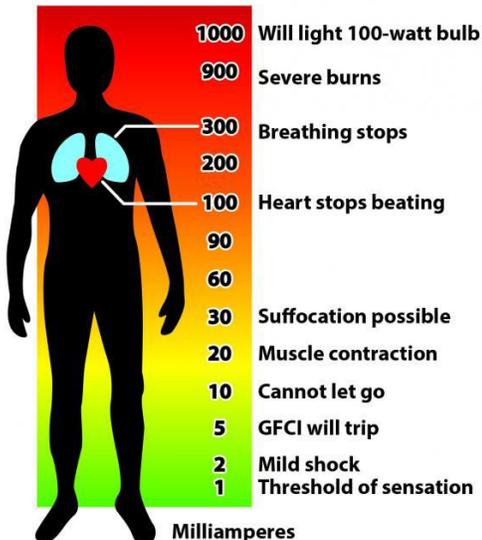


Electrical Shock Kills!

We rely on electrical power to keep our workplaces and our homes operating day and night. Electricity provides heat, light and energy to do many kinds of work. As useful as electricity is, we must never forget it is also dangerous. Electrical shock kills. Electricity can also cause fires and explosions. Here are some reminders about electrical safety at work and at home:

- Keep electricity and moisture away from each other. Never touch electrical equipment with wet hands or when standing on a damp surface. Do not work around electricity when your tools or clothing are wet.
- Report any indications of electrical malfunction. Watch for these signs: flickering lights, radio or

Electricity's Effects



In the Spotlight

Spc. Courtney Charlson

Job title: Bioscience Specialist

How long have you worked at the ISR? 16 months

What or who has been an inspiration to you in your work? My first-line sergeant: Sgt. Chiquita Thomas-Benson.

What is your favorite part of your work? What I love about my job is working with the experienced soldiers, officers, and civilians in my section. I learn something new every day and the cohesion in our group is gratifying. The pleasant and professional work environment gives one a reason to smile every day.

What is your proudest achievement? My proudest achievement was when I was selected to become a Counterintelligence Agent for the United States Army.

Short- and long-term goals: My short-term goal is to graduate from the Special Agent's course, and my long-term goal is to retire from the Army as a Warrant Officer and work for the Central Intelligence Agency.

Hobbies: My hobbies are writing fiction, gaming, cooking, watching movies, cosplay and costume makeup design, trying out new restaurants or new activities, learning new things and martial arts. I like learning about different cultures and foreign languages for I believe that being able to communicate properly is crucial for cooperation.

Favorite book: Stephen King's *Dark Tower* series

Favorite movie/TV show: *Game of Thrones*

Favorite quote: "I firmly believe that any man's finest hour, the greatest fulfillment of all that he holds dear, is that moment when he has worked his heart out in a good cause and lies exhausted on the field of battle – victorious." Vince Lombardi



television interference when another electrical device is in operation, buzzing sounds in electrical panels, switches or outlets hot to the touch, damaged or worn insulation, loose switches and electrical equipment which works sometimes and doesn't work the next time.

- Never attempt electrical repairs unless you are qualified and authorized to do so. Do not use electrical equipment altered with makeshift repairs.
- Do not alter plugs by removing the third prong so it can fit into a two-prong outlet. This defeats the safety feature of a ground wire.
- Only use extension cords tempo-

rarily. Have wiring upgraded to accommodate new equipment.

- Use a Ground Fault Circuit Interrupter (GFCI) whenever you use electrical tools and appliances around moisture or outdoors. These devices can detect leakage of electricity from a circuit before you are harmed by electrical shock.
- Wear the correct Personal Protective Equipment when working around electrical hazards. This may include leather gloves covered by rubber gloves, non-conductive footwear, arc flash protective gear, and safety eyewear. Do not wear metal jewelry which can acciden-

SAFETY continues on page 9

Health News

By Maria G. Dominguez, R.N. COHN-S/CM Occupational Health



We are now in the month of May! The fifth month of the year! Are you still on track with your New Year resolutions? Are you meeting your goals? Don't give up! We get it. You still have seven months to reach your initial goal. There are multiple reasons why may is the right time to reboot your goals. Swimsuit season is rapidly approaching. May is a month of spring in the Northern Hemisphere and luckily it is also National Bike Month, National Blood Pressure Month, National Physical Fitness and Sports Month. It is also a great month to celebrate some very special people like Mother's Day, Teacher's and Nurse's Week. So more initiative to think about health and

wellness.

The recent hails storms were a great reminder about safety and emergency response management, great exercise. There's nothing like a sudden hail storm on a Texas afternoon. This reminded us how well we should be prepared. And to be safe! Things happen in a split second. So did this bring back thoughts of VPP?

Speaking of outdoor activities and keeping up our exercise goals: Texas is a warm and sunny state. Lots of UV exposure. Melanoma is the most dangerous type of skin cancer that is primarily caused by UV exposure, and approximately 25 percent develop from moles. So how about skin check? When was the last time you checked your skin for any dark spots? Or has the mole you had for years suddenly grown? Does your healthcare provider complete a head to toe skin check when you go for your annual exam? How many hours do you spend on the golf course or other outdoors activities? Sunscreen anyone? So as the summer months begin check your sunscreen for expiration dates.

Vacation coming up? Prepare for

travel when you check your passport by checking your immunization record. Check your children's records as well. Don't wait till the last minute.

As we wrap up the month of May honor those who have died in all wars. In 1971, Memorial Day became a National holiday by an act of Congress; it is now celebrated on the last Monday in May. Happy summer!

SAFETY continued from page 8

- tally contact the electrical circuit, causing shock.
- Heed all warning signs about electrical hazards. Stay away from high voltage installations and other posted areas.
- Beware of overhead electrical hazards. Watch for power lines and ceiling fixtures when moving items such as ladders or pipes, or operating equipment such as cranes or lifting devices.
- Use your electrical safety sense off the job too. Inspect your home for possible electrical hazards, including overloaded circuits and defective electrical equipment. Have a qualified electrician repair or improve wiring as necessary. Have GFCIs installed in bathrooms, basements, kitchens, and areas outdoors where you use electrical equipment.

Obtain training in what to do in case of an accident involving electricity:

- Before you attempt to rescue a victim of electric shock, make sure you are not putting yourself in similar danger. Do not touch the person and do not use a tool to reach the person unless you are sure the power has been disconnected. Check for a heartbeat and if necessary start CPR (Cardiopulmonary Resuscitation) if you are trained to do so. Get medical help immediately.
- If fire occurs in energized electrical equipment, use only a "C" fire extinguisher, or a combination "ABC" or "BC" extinguisher. Never put water on an electrical fire; the result can be a deadly shock.

WHEN ARE UV RAYS THE STRONGEST?

Label	Time Range
A	Between 9am and 11am
B	Between 11am and 4pm
C	Between 6am and 11am

Around the ISR

Top right: Col. (Dr.) Michael Wirt, right, presents Lt. Col. Stuart Tyner with the Order of Military Medical Merit medallion April 21. Photo by Maj. Kristi Morris.

Center right: Maria Serio-Melvin and Bijan Kheirabadi, left, explain the functions of the Burn Navigator and hemostatic gauze, respectively, to members of the Civilian Aides to the Secretary of the Army during their visit to SAMMC April 5.

Bottom right: Sgt. Joshua Freeman inspects Sgt. Robert Loya before he enters the NCO of the Month Board April 26.

Bottom left: Capt. Sarah Hensley, left, gives a tour of the Burn Intensive Care Unit April 20 to staff members from the Laughlin AFB medical clinic in Del Rio, Texas.

Top left: Jimmy Rodriguez, explains the equipment in a Burn Intensive Care Unit room to Stacy Cummings, Program Executive Officer for the Defense Healthcare Management Systems Program Office.



Around the ISR cont.



Top right: Sheraly Wright, right, presents Hope Greeley with a going-away gift April 1..
Bottom right: Maj. Amy Field, left, presents Sgt. John Snook with his Reenlistment Certificate during his reenlistment ceremony April 27.
Left bottom: Andrew Wallace, right, gives a tour of the Progressive Care Unit (4 East) April 6 to Lt. Gen. Karen Dyson, Military Deputy to the Assistant Secretary of the Army (Financial Management and Comptroller).
Center left: Sgt. Jamar Daniels, right, inspects Spc. Shenouda Zarif before he enters a Promotion Board April 4.
Top left: Stephanie Truss cuts her birthday cake April 28.



Dobbs named ISR Civilian of the Year

Story and photo by Steven Galvan
ISR Public Affairs Officer

“He is the epitome of a quiet professional. He is confident, yet humble, and calm under pressure. He understands the importance of travel to the Institute’s mission and to research.” That’s how Maj. Kristi Morris, the U.S. Army Institute of Surgical Research Chief Financial Officer described Brandon Dobbs the 2016 USAISR Civilian of the Year. Dobbs is a budget analyst in the Resource Management Office and serves as the lead Defense Travel Agent and Agency Program Coordinator.

“I believe that I was selected because of my work ethic, patience and confidence that I have in my meticulous efforts to complete the daily mission,” said Dobbs. “I assist with expertise and customer service towards temporary duty assignments for the Soldiers and civilians at the USAISR.”

Shortly after taking on his new job, Dobbs was nominated and selected as Resource Directorate Civilian of the Quarter, putting him in the running for civilian of the year against the other quarterly honorees.

“I am extremely humbled for being selected as the civilian of the year and will not take this award for granted,” he said.

“The fact that he could make such an impact in a short time is a testament to his work ethic, character and the opportunities here at the ISR,” said Morris. “He was selected as Civilian of the Year after only working here for a year—that is a tremendous feat!”

Dobbs said that the best thing that he likes about his job is the customer service because it allows him to interact with the staff at the Institute and other Department of Defense personnel throughout the world.

“I also enjoy working with my Resource Management team,” he said.

Short- and long-term goals that Dobbs is working on include completing the Enhanced Defense Financial



Brandon Dobbs, budget analyst in the Resource Management Office who serves as the lead Defense Travel Agent and Agency Program Coordinator was selected as the USAISR 2016 Civilian of the Year.

“The fact that he could make such an impact in a short time is a testament to his work ethic, character and the opportunities here at the ISR. He was selected as Civilian of the Year after only working here for a year—that is a tremendous feat!”

Maj. Kristi Morris
Chief Financial Officer



Management Training and earning a Financial Management Certification to eventually become a budget officer/comptroller. He also said that he doesn’t have to look too far for daily inspiration.

“My wife and two children are my motivation,” Dobbs said.

When asked what advice he has for someone who would like to be selected for this honor he simply stated: “I honestly do not have any advice to give. I’m just more thankful for the leadership that I have that recognizes my work and dedication.”

Morris added that Dobbs deserves this award because he has transformed the travel process by developing new methods of tracking staff travels and conferences as well as travel card use issues.

“He is responsible for many other improvements as well,” said Morris. “Keep an eye on this guy, he is going places!”

CELEBRATING SCIENCE



In this section we endeavor to celebrate the dissemination of generalizable knowledge in the form of published manuscripts. One of our core missions is translation of knowledge gained through pre-clinical and clinical experiments in an effort to optimize combat casualty care. It is important to acknowledge and recognize the collective work of our investigators during this process. Hence, we plan on “celebrating science” on a regular basis.

TOP THREE PAPERS OF THE MONTH

Blood

Shed Pleural Blood from Traumatic Hemothorax Contains Elevated Levels of Pro-Inflammatory Cytokines

Salhanick MA, Sams VG, Pidcoke HF, Fedyk CG, Scherer MR, Dubick MA, Dent DL, Cap AP, Schwacha MG.

Shock

PURPOSE: The autotransfusion of unwashed (or unprocessed) shed hemothorax blood (USHB) in trauma patients is widely assumed to be beneficial; however, the inflammatory potential of shed pleural blood has not been thoroughly studied. Since previous studies have documented marked changes in coagulation function of shed pleural blood, we hypothesized that its level of inflammatory cytokines would be elevated.

METHODS: A prospective observational study of trauma patients in which cytokine levels from USHB were compared to venous samples from healthy volunteers was conducted. Differences between the cytokine content of patient-derived samples were compared to those from healthy subjects.

RESULTS: There was a statistically significant increase in pro-inflammatory cytokines (IL-6, IL-8, TNF α , GM-CSF), a pro-inflammatory Th-1 cytokine (IFN γ) and anti-inflammatory Th-2 cytokines (IL-4 and IL-10) in shed pleural blood over four hours when compared to samples from healthy controls ($p < 0.05$). Cytokine levels in USHB are approximately 10- to 100-fold higher compared to healthy control venous samples.

CONCLUSIONS: USHB, even collected within the accepted four-hour window, contains significantly elevated cytokine levels, suggesting the potential for deleterious effects from autotransfusion. Randomized trials are needed to determine the safety and efficacy of autotransfusion in trauma patients.

Biofilm

Activity of Gallium Meso- and Protoporphyrin IX against Biofilms of Multidrug-Resistant *Acinetobacter baumannii* Isolates

Chang D, Garcia RA, Akers KS, Mende K, Murray CK, Wenke JC, Sanchez CJ.

Pharmaceuticals (Basel)

Acinetobacter baumannii is a challenging pathogen due to antimicrobial resistance and biofilm development. The role of iron in bacterial physiology has prompted the evaluation of iron-modulation as an antimicrobial strategy. The non-reducible iron analog gallium(III) nitrate, Ga(NO₃)₃, has been shown to inhibit *A. baumannii* planktonic growth; however, utilization of heme-iron by clinical isolates has been associated with development of tolerance. These observations prompted the evaluation of iron-heme sources on planktonic and biofilm growth, as well as antimicrobial activities of gallium meso- and protoporphyrin IX (Ga-MPIX and Ga-PPIX), metal heme derivatives against planktonic and biofilm bacteria of multidrug-resistant (MDR) clinical isolates of *A. baumannii* in vitro. Ga(NO₃)₃ was moderately effective at reducing planktonic bacteria (64 to 128 μ M) with little activity against biofilms (≥ 512 μ M). In contrast, Ga-MPIX and Ga-PPIX were highly active against planktonic bacteria (0.25 to 8 μ M). Cytotoxic effects in human fibroblasts were observed following exposure to concentrations exceeding 128 μ M of Ga-MPIX and Ga-PPIX. We observed that the gallium metal heme conjugates were more active against planktonic and biofilm bacteria, possibly due to utilization of heme-iron as demonstrated by the enhanced effects on bacterial growth and biofilm formation.

Blood

Treatment of blood with a pathogen reduction technology using ultraviolet light and riboflavin inactivates Ebola virus *in vitro*.

Cap AP, Pidcoke HF, Keil SD, Staples HM, Anantpadma M, Carrion R Jr, Davey RA, Frazer-Abel A, Taylor AL, Gonzales R, Patterson JL, Goodrich RP.

Transfusion

BACKGROUND: Transfusion of plasma from recovered patients after Ebolavirus (EBOV) infection, typically called "convalescent plasma," is an effective treatment for active disease available in endemic areas, but carries the risk of introducing other pathogens, including other strains of EBOV. A pathogen reduction technology using ultraviolet light and riboflavin (UV+RB) is effective against multiple enveloped, negative-sense, single-stranded RNA viruses that are similar in structure to EBOV. We hypothesized that UV+RB is effective against EBOV in blood products without activating complement or reducing protective immunoglobulin titers that are important for the treatment of Ebola virus disease (EVD).

STUDY DESIGN AND METHODS: Four *in vitro* experiments were conducted to evaluate effects of UV+RB on green fluorescent protein EBOV (EBOV-GFP), wild-type EBOV in serum, and whole blood, respectively, and on immunoglobulins and complement in plasma. Initial titers for Experiments 1 to 3 were 4.21 log GFP units/mL, 4.96 log infectious units/mL, and 4.23 log plaque-forming units/mL. Conditions tested in the first three experiments included the following: 1-EBOV-GFP plus UV+RB; 2-EBOV-GFP plus RB only; 3-EBOV-GFP plus UV only; 4-EBOV-GFP without RB or UV; 5-virus-free control plus UV only; and 6-virus-free control without RB or UV.

RESULTS: UV+RB reduced EBOV titers to nondetectable levels in both nonhuman primate serum (≥ 2.8 - to 3.2 -log reduction) and human whole blood (≥ 3.0 -log reduction) without decreasing protective antibody titers in human plasma.

CONCLUSION: Our *in vitro* results demonstrate that the UV+RB treatment efficiently reduces EBOV titers to below limits of detection in both serum and whole blood. *In vivo* testing to determine whether UV+RB can improve convalescent blood product safety is indicated.

TRANSLATIONAL RESEARCH**Compensatory Reserve**

Comparison of Compensatory Reserve During Lower Body Negative Pressure and Hemorrhage in Non-human Primates

Hinojosa-Laborde C, Howard JT, Mulligan J, Grudic GZ, Convertino VA

Am J Physiol Regul Integr Comp Physiol

CLINICAL RESEARCH**Hydraulic Well Fracturing**

Traumatic Injuries Incidental to Hydraulic Well Fracturing: A Case Series.

Williams JF, Lundy JB, Chung KK, Chan RK, King BT, Renz EM, Cancio LC.

J Burn Care Res

Mechanical Ventilator Practices

A Survey of Mechanical Ventilator Practices Across Burn Centers in North America.

Chung KK, Rhie RY, Lundy JB, Cartotto R, Henderson E, Pressman MA, Joe VC, Aden JK, Driscoll IR, Faucher LD, McDermid RC, Mlcak RP, Hickerson WL, Jeng JC.

J Burn Care Res

Burn Wound

The Burn Wound Microenvironment.

Rose LF, Chan RK.

Adv Wound Care (New Rochelle)

Wrist

Reverse posterior interosseous flap for defects of the dorsal ulnar wrist using previously burned and recently grafted skin.

Baylan JM, Chambers JA, McMullin N, Fletcher JL, Sinha I, Lundy J, King BT, Chan RK.

Burns**Pentraxin 3**

Pentraxin 3: an immune modulator of infection and useful marker for disease severity assessment in sepsis.

Ketter P, Yu JJ, Cap AP, Forsthuber T, Arulanandam B.

Expert Rev Clin Immunol

Platelet Storage

Bioenergetic profiling of platelet mitochondria during storage: 4°C storage extends platelet mitochondrial function and viability.

Bynum JA, Adam Meledeo M, Getz TM, Rodriguez AC, Aden JK, Cap AP, Pidcoke HF.

Transfusion



TOP PAPER OF THE MONTH

Martin Schwacha, Ph.D., right, is presented with a Combat Casualty Care Research Program coin April 27 by Josh Wenke, Ph.D. for earning the Top Paper of the Month.

Photo by Capt. Melissa Kottke

Blood

US Army blood program: 2025 and beyond.
Gonzales R, Taylor AL, Atkinson AJ, Malloy WW, Macdonald VW, Cap AP
Transfusion

Rhabdomyolysis

Rhabdomyolysis among critically ill combat casualties: Associations with acute kidney injury and mortality.
Stewart IJ, Faulk TI, Sosnov JA, Clemens MS, Elterman J, Ross JD, Howard JT, Fang R, Zonies DH, Chung KK.
J Trauma Acute Care Surg.

EXTRAMURAL COLLABORATION

Laparotomy

Short-Term Outcomes and Complications of Damage Control and Definitive Laparotomy in Deployed Combat Environments: 2002 to 2011.
Mitchell TA, Lauer CL, Aden JK, Edwards KD, Bailey JA, White CE, Blackbourne LH, Holcomb JB
Mil Med.

Pneumothorax

Computerized Diagnostic Assistant for the Automatic Detection of Pneumothorax on Ultrasound: A Pilot Study.
Summers SM, Chin EJ, Long BJ, Grisell RD, Knight JG, Grathwohl KW, Ritter JL, Morgan JD, Salinas J, Blackbourne LH
West J Emerg Med.

Platelet Storage

The effects of 22°C and 4°C storage of platelets on vascular endothelial integrity and function.
Baimukanova G, Miyazawa B, Potter DR, Gibb SL, Keating S, Danesh A, Beyer A, Dayter Y, Bruhn R, Muench MO, Cap AP, Norris PJ, Spinella P, Cohen M, Pati S.
Transfusion

Platelet Storage

Platelets regulate vascular endothelial stability: assessing the storage lesion and donor variability of apheresis platelets.
Baimukanova G, Miyazawa B, Potter DR, Muench MO, Bruhn R, Gibb SL, Spinella PC, Cap AP, Cohen MJ, Pati S.
Transfusion

HIV

Factors associated with HIV viral load “blips” and the relationship between self-reported adherence and efavirenz blood levels on blip occurrence: a case-control study.
Farmer A, Wang X, Ganesan A, Deiss RG, Agan BK, O’Byrne TA, Akers K, Okulicz JF.
AIDS Res Ther

PTSD

Role of Pre-Morbid Factors and Exposure to Blast Mild Traumatic Brain Injury on Post-Traumatic Stress in United States Military Personnel.
Manners JL, Forsten RD, Kotwal RS, Elbin RJ, Collins MW, Kontos AP.
J Neurotrauma



Volunteer Appreciation

U.S. Army Institute of Surgical Research Burn Center staff held a Volunteer Appreciation luncheon April 13 as a token of appreciation for the volunteers who devote their time in assisting Burn Center staff and burn patient family members every day. Ann Fritz, center, cuts a ceremonial cake to mark the occasion.

LAB WEEK

The U.S. Army Institute of Surgical Research observed National Medical Lab Week April 25-29 with various some games and activities held each day to include: daily puzzles; a lab safety scavenger hunt; "What am I" and "What's that Smell?"

Top right: Spc. Robert Sadowski participates in the "What am I" competition April 25.

Bottom right: Alicia Schiller and Jessie Fernandez compete in the lab safety scavenger hunt April 26.

Bottom left: Bobbie Mills participates in the "What's that Smell?" April 27 as Spc. Jordan Smith looks on.



PROGRAM AWARENESS FAIR

The U.S. Army Institute of Surgical Research held its 2nd Annual Program Awareness Fair April 29 to promote awareness on the various National, Department of Defense, local community, and internal formal and informal programs. Various programs covered during the fair included safety, health, Sexual Harassment/Assault Response and Prevention, Equal Opportunity, and burn education to name a few.

Top right: Renee Williams wears a pair of impairment goggles that simulates the effects of alcohol consumption as Sgt. John Snook helps her maintain her balance.

Center right: Patricia Colston looks on as Sgt. Benjamin Joiner and Spc. Robert Sadowski participate in a "temperature/item matching" game provided by the Burn Center Education Office.

Bottom right: Capt. Melissa Kottke, center, provides information on the Army Emergency Relief program to Dora Lugo, Vicky Hatem and Delaine Wilford.

Bottom left: Emily Flores operates a fire extinguisher to put out a fire using a training simulator.

Top right: Sgt. Jennifer Grant is provided health information by the USAISR Occupational Health Nurse, Maria Dominguez.



Back When...



Can you guess who this ISR staff member is? This photo was taken at King Khalid Military City, Saudi Araia in 1991 when he was a specialist.

Submit your photo for publication in upcoming issues.

Last Month's Answer:



Kristina Dudman
Asst. Facility Manager

statistically validated measurement tool that allows researchers to examine library anxiety and tease out how it affects various demographics. It includes about 40 statements to agree or disagree with. Some examples are: "I don't know how to use the library" or "I am unsure about how to begin my research." Bostick, now Dean of Libraries at the Illinois Institute of Technology, Chicago, says library anxiety is similar to "math anxiety" or "test anxiety." These can be described as situational apprehension rather than related to a person's temperament.

So how do you overcome your library anxiety? Begin by understanding some of the different things librarians do. We try very hard in this electronic age to provide that personal service as enablers who get you what you need in any form (print, electronic, audio). We attempt to create within our library walls a resource that supports the teaching, research, and clinical interests of the entire staff. We endeavor to provide an orientation to literature searching, navigating the web, reading electronic resources and how to use them. We will get you your Instructions for Authors, we will find you a journal's impact factor, and we will help you decide on what journal to publish in. If, after realizing these services and still suffering from that feeling of fear—library anxiety, get over it!

Library News

By Gerri Trumbo
Library Manager



Recently I came across a number of articles in library journals describing a modern day theory that piqued my interest. It led me to doing some research to find out more about the concept of "library anxiety."

Do you suffer from library anxiety? This strange phenomena is defined as the overwhelming feeling, most abundant in college students, as that "scary, overpowering, lost, helpless and fear of the unknown" feeling that hits one entering a library. Or even thinking about entering one.

First termed in 1986 by Constance A. Mellon in the March 1986 issue of College & Research Libraries, library anxiety describes that feeling in 75-85 percent of all college and graduate students.

Do you think the librarian is too busy to help you? Do you think you can find it all on Google? Are you unfamiliar with what your library has to offer? When's the last time you leafed through a professional print journal, or read a book? All signs of that dastardly phobia known as library anxiety!

In 1992 Sharon Bostick developed the Library Anxiety Scale, a now copyrighted and

The Research Regulatory Compliance Division will be conducting a Good Clinical Practice Training Course on May 9 (0800-1600 new to GCP) and May 10 (0800-1200 half day refresher) in the BHT1 2nd floor conference room.

Required every 3 years if you are involved with FDA-regulated IND/IDE research studies.

