

# #INNOVATOR

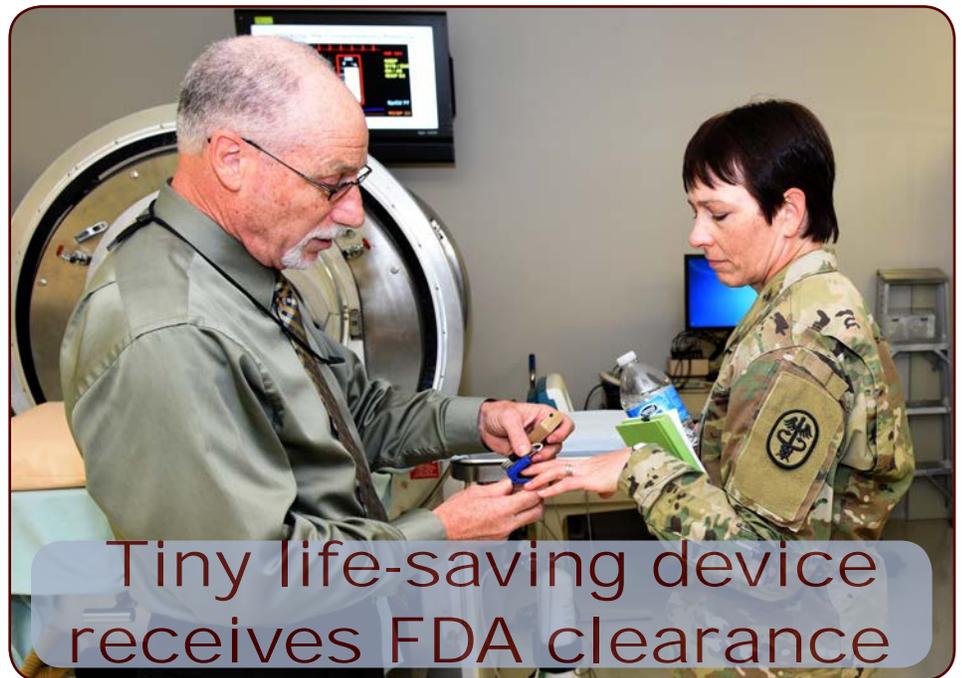
Optimizing Combat Casualty Care

February 2017



## Inside This Issue

- 2 Commander's Corner
- 3 SGM Says
- 4 Company Notes/New 1st Sgt.
- 5 Wedding Vow Renewal
- 6 Frank Butler Blvd
- 8 Safety Notes/in the Spotlight
- 9 Health News
- 10 Around the ISR
- 13 Memorial/iHeart Radio
- 14 Back When/Awards



## Tiny life-saving device receives FDA clearance

U.S. Army Institute of Surgical Research Senior Scientist Victor "Vic" Convertino, Ph.D., demonstrates the functions and capabilities of the Compensatory Reserve Index to Maj. Gen. Barbara Holcomb, commanding general, U.S. Army Medical Research and Materiel Command.

Story and photo by Dr. Steven Galvan  
USAISR Public Affairs Officer

The ability to measure the body's capacity to compensate for blood loss, also known as the compensatory reserve, has been the focus of researchers at the U.S. Army Institute of Surgical Research at Fort Sam Houston, Texas, for years. Hemorrhagic shock from blood loss is the leading cause of death in trauma patients. Traditional methods of taking vital signs does not detect when a patient is on the verge of crashing or going into hemorrhagic shock and potentially dying from blood loss.

With that in mind, USAISR researchers collaborated with scientists and engineers at the University of Colorado and Flashback Technologies Inc., to develop an algorithm, the Compensatory Reserve Index, to detect when a patient is going into hemorrhage shock. The tiny device is the first medical monitoring technology capable of providing early detection of impending circulatory shock in trauma patients and received clearance from the U.S. Food and Drug Administration in December 2016 to be used in pre-hospital and hospital settings.

"Our research has revealed that the

**CRM Continues on Page 12**

## CDR's Corner



Col. (Dr.) Shawn C. Nessen  
Commander, USAISR

### "Optimizing Combat Casualty Care"

Team ISR,

I hope that everyone is having a great New Year so far and that you had a great holiday season. 2017 is here and seems to be moving along pretty fast as January is gone and we're al-

ready well into the month of February. A lot had gone on since the last time I wrote this column. First and foremost was the inauguration of our new president and commander-in-chief a couple of weeks ago. As you are aware of, one of the first executive orders that President Trump signed was the hiring freeze of all Federal employees.

This is having an affect across the country to include our Institute. We are not able to hire on any new Federal or contract employees until the hiring freeze is over, which has been set for 90 days and if it stays on course will end during the last week of March. This hiring freeze not only affects hiring new employees, it also affects Federal employees who were hiring in a "Temp" status.

This will affect the ISR since about five percent of our Federal employees fall under this category and the "term" will expire during the freeze. I am doing everything that I can in order to minimize the effects of this situation, but know that I'm limited in what I can do for our staff. I will certainly keep you posted on any news on the hir-

ing freeze when new details are made available to me.

Also, know that this short-term freeze will not have an effect on our future. I am happy to announce that it appears we are going to expand our research task areas and expand our research capabilities by possibly adding three additional task areas to our Research Directorate. This will greatly enhance our combat casualty care research and keep in line with meeting our mission.

Lastly, I would like to thank everyone who was involved in coordinating and executing the very successful MRMC Commander's Conference that we hosted from January 31 through February 2. I heard nothing but positive comments from the attendees to include our CG, Maj. Gen. Holcomb and all the MRMC commanders. Of course, this is not an isolated incident every visitor of the ISR we have host at the Institute as well as the Burn Center are impressed by your enthusiasm and professionalism. Your diligence and dedication are well noticed beyond the walls of our command. Great job to all!



Maj. Gen. Barbara R. Holcomb, Commanding General, U.S. Army Medical Research and Materiel Command welcomes attendees to the 2017 USAMRMC Commander's Conference Jan. 31 hosted at the U.S. Army Institute of Surgical Research Jan. 31-Feb. 2.

## THE INNOVATOR

Col. (Dr.) Shawn Nessen  
Commander

Master Sgt.(P) Natasha Santiago  
Acting Sergeant Major

Steven Galvan, D.B.A.  
Public Affairs Officer

*The Innovator* is an authorized publication for members of U.S. Army Institute of Surgical Research, published under the authority of AR 360-1. Contents are not necessarily official views of, or endorsed by the U.S. Government, Department of Defense, Department of the Army, or USAISR.

*The Innovator* is published monthly by the Public Affairs Officer,  
3698 Chambers Pass, Bldg 3611  
Fort Sam Houston, TX 78234.

Questions, comments or submissions for *The Innovator* should be directed to the PAO at 210-539-5470 or by e-mail to [steven.galvan2.civ@mail.mil](mailto:steven.galvan2.civ@mail.mil)

Deadline for submission is five days before the first of the month. We reserve the right to edit submissions selected for publication.

## SGM Says



Master Sgt.(P) Natasha Santiago  
Acting Sergeant Major

One Team.  
One Purpose!  
Conserving the Fighting  
Strength!

Greetings ISR Team,

Happy New Year! It is amazing how fast January has flown by. I am motivated to get 2017 off to a great start. There are always exciting and new things going on within the organization that keep me inspired. That is how I want to start off this New Year; inspired.

What is it that inspires you to do what you do every day? Is it family, friends, passion for your job, all of the above, or, perhaps something that I did not mention? We are all inspired and moved to act by different things, simply, because we are all different people; no two are the same. We may have similar reasons for inspiration, but for the most part, our differences are what drives us and creates our passion.

Our mission here is truly singular in that we are the only organization that has a clinical and research mission within the Army. Some may say that could divide a unit. Me, I think that it binds us, and creates an exclusivity that no other organization can say that they have. When you have a unique or one-of-a-kind mission set, it does not make you better than anyone or any other unit. But, in some ways, it does allow you to stand out like a diamond in a coal mine. We as an organization

are complex and simplistic all at the same time (depending on who you ask). The greatest thing about what we do is that we inspire people all around us to be better because of the work that is done here.

To run the only Burn Center in the DoD and be the leaders in Combat Casualty Care Research is no easy feat. Competence, candor, passion, and many levels of expertise reside within our walls. I implore you to walk around and just bask in the true essence of what our organization has done not only for the military but the world. Labs, patient care areas, operating rooms and offices are filled

everyday with staff that comes to work inspired because of our shared mission; optimizing combat casualty care. I am honored to work side by side with innovative professionals who go the distance daily to get the mission done.

So what inspires me? My family, friends, faith, being a Soldier and working at the USAISR. Every single person who works in this organization inspires me to want to be a better leader, Soldier, and person. Your unrelenting levels of professionalism and dedication to our mission are palpable to everyone that comes through our doors. Thank you for being an inspiration.

## First Sgt. Carey takes charge at USAISR



Master Sgt.(P) Natasha Santiago pins the new rank on First Sgt. Kenneth Carey during a lateral transfer promotion ceremony Dec. 12

By Dr. Steven Galvan  
USAISR Public Affairs Officer

The newest U.S. Army Institute of Surgical Research senior enlisted advisor took the reins of the USAISR Company during a lateral transfer promotion ceremony from Master Sgt. to 1st Sgt. Dec. 12. First Sgt. Kenneth M. Carey joins the Army's only combat

casualty care research institute after serving in the Force Protection Agency Directorate at the Pentagon. During his tenure at the Pentagon he as the noncommissioned officer in charge of the Pentagon Force Protection Agency; the Chemical, Biological, Radiological, Nuclear, and High -Yield Explosive Laboratory; and the Bio-Surveillance **CAREY Continues on Page 7**

## Company Notes



Company Commander  
Capt. Cleveland S. Bryant Jr.

The ISR conducted a Civilian/Military Awards ceremony on Jan. 20 and the awards ranged from Certificates of Achievement to Army Achievement Medals and Army Commendation Medals. The ceremony recognized the great work conducted within this organization. This event significantly promotes the collective recognition of both military and civilian personnel publicly within the organization.

Presently we have the following soldiers pending graduation from the Basic Leadership Course at Fort Hood: Spc. Eric Force, Spc. Nicholas May and Spc. Arthur Shindler.

Congratulations to Sgts. MylahJoy and Joshua Freeman who reenlisted during a dual reenlistment ceremony. The Freemans are anticipated to PCS to Fort Gordon, Georgia. Further, let's congratulate the Freeman's on the birth of their baby boy born on the Jan. 21 into the ISR family. Also, we would like to congratulate Staff Sgt. David Shelley for his reenlistment as well as selection into the Interservice Physician Assistant Program (IPAP) at Joint Base San Antonio-Fort Sam Houston.

We would also like to congratulate Pfc. Sean Gay for his promotion to Specialist, as well as Sgt. Jimmy Pittman--NCO of the Month and Spc. Chelsea Hornback--Soldier of the Month.

Upcoming events: President's Day

holiday on Feb. 20, Valentine's Day on the 14th and Black History Observation Month throughout the month of February.

As we come to a close of the first month in this New Year, 1st Sgt. and I encourage you all to continue the great and innovative work you are partaking within this organization. Let this New Year be an opportunity of change, new focus and new beginnings for you all. Be sure to maintain good health and

sound well-being throughout this year. Be sure to cherish the time with family and friends. Be a light of peace, hope and love to all.

Thank you all for everything you all do every day. Continually, it is truly an honor serving as your Company Commander and First Sergeant! God Bless you all.

**One Team.**

**One Purpose.**

**Conserving the Fighting Strength.**



Capt. Cleveland Bryant, left, administers the Oath of Reenlistment to Sgts. Joshua and MylahJoy Freeman during their dual reenlistment ceremony Jan. 17.



NCO of the Month  
Sgt. Jimmy Pittman



Soldier of the Month  
Spc. Chelsea Hornback

# Retired Army couple renew wedding vows at BAMC



Connie and Albert Ross recite their 10-year vow renewal Jan. 19 in the exact same spot where they first met at the Brooke Army Medical Center 12 years ago. Retired Army Staff Sgt. William Watson was the bride's "Battle Buddy" and officiated the ceremony.

Story and Photos by Dr. Steven Galvan  
USAISR Public Affairs Officer

Renewing wedding vows is a special occasion for many married couples. For Albert and Connie Ross, their 10-year vow renewal celebration Jan. 19 was special in many ways, for it was held at the exact same spot where they first met at the San Antonio Military Medical Center 12 years ago. And, the ceremony officiant was the bride's "Battle Buddy" and as an added surprise, the person who walked her down the aisle, in this case the hospital hallway, was her surgeon while she was hospitalized.

It was Jan. 19, 2005, when the then, Sgt. Connie Spinks was waiting outside the entrance to the physical rehab department for one of her three-daily rehab sessions. She was sitting in a wheelchair minding her own business when she noticed a young, handsome Soldier, Spc. Albert Ross, walking in her direction.

"I looked up at him and said, 'what

you doing pimp-walking down the hallway?'" she said.

"Pimp-walking," he replied. "I'm an amputee."

Albert was coming from the back entrance of SAMMC with a bag of popcorn that he had just picked up.

With a look of disbelief on her face, Albert sat next to her and raised his uniform pant leg up and showed her his prosthetic leg, all along enjoying his popcorn.

"Then she tells me, 'didn't your mom teach you how to share,'" he said.

From that day they became good friend and would meet often to play video games or just hang out at a small facility specifically designed for that purpose for Wounded Warriors and their families at the Army and Family Support Center.

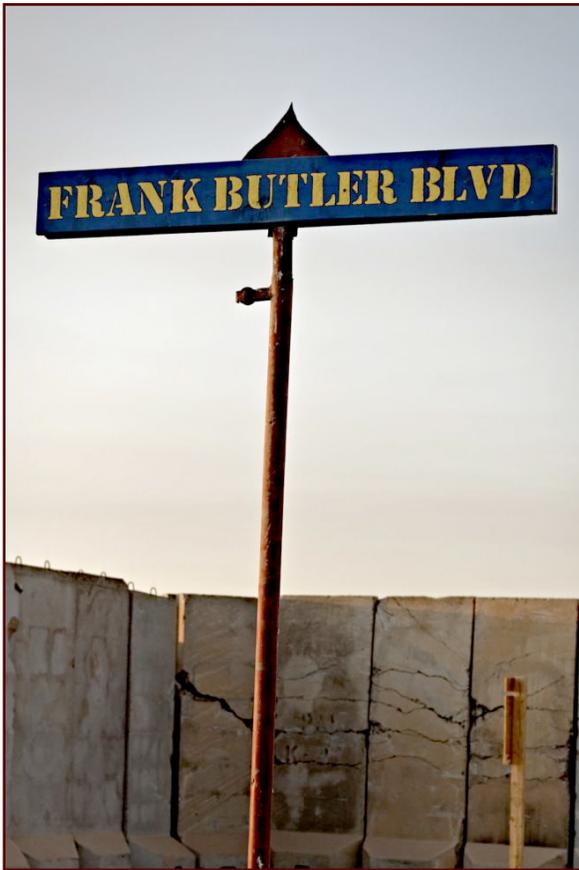
The year before they met, Connie had been admitted to the U.S. Army Institute of Surgical Research Burn Center collocated with SAMMC at Fort Sam Houston, Texas, and Albert was across the hallway at SAMMC. Connie was injured while traveling with a convoy in Mosul, Iraq, when a suicide bomber driving a small pickup blew himself up when he drove up next to the Humvee that she was traveling in. She sustained 2nd degree burns to her face, 3rd degree burns to her hands and forearms, both of her ankles were shattered, her right femur was broken and her eardrums were perforated.

**VOWS Continues on Page 12**



Retired Army Col., Dr. Evan Renz, former hospital commander and Burn Center director surprised the with Albert and Connie Ross with his attendance and walked Connie down the aisle.

# Road on U.S. base in Iraq honors Navy SEAL doc



By Dr. Steven Galvan  
USAISR Public Affairs Officer

Need directions to the Forward Surgical Team facility at the Logistical Support Area just south of Mosul, Iraq? It's easy to find. It's on the corner of the base runway flight line and Frank Butler Blvd. The road was named in November 2016 to honor retired Navy Capt. (Dr.) Frank K. Butler Jr.

Butler started his career as a Navy SEAL officer, went on to become an Undersea Medical Officer, and then an eye surgeon. He retired as the Command Surgeon of the US Special Operations Command in 2006.

"This was a complete surprise," said Butler, chairman of the Committee on Tactical Combat Casualty Care and chief of prehospital trauma care at the U.S. Army Institute of Surgical Research Joint Trauma System. "Navy Capt. Tom Craig, a deployed emer-

gency medicine physician, e-mailed me from Iraq and told me about it."

Craig, a physician serving at a medical facility in Mosul, led the effort to name the road at the LSA after Butler as a result of Butler's 20 years devoted to developing and improving Tactical Combat Casualty Care (TCCC). TCCC is a set of evidence-based, best-practice prehospital trauma care guidelines customized for use on the battlefield. TCCC is has become the standard throughout the Department of Defense and in allied militaries for battlefield trauma care and has been credited with saving thousands of lives in combat in Iraq and Afghanistan.

Butler's involvement in developing TCCC began in 1996 when he co-authored a manuscript that was published in a supplement to the peer-reviewed medical journal Military Medicine. The document, titled "Tactical Combat Casualty Care in Special Operations" presented the results of a four-year research effort that reviewed the evidence base for every aspect of battlefield trauma care as it was practiced in the U.S. military in

"After seeing the dramatic reduction in preventable deaths that TCCC has helped to achieve, the U.S. military has to ensure that we sustain this success, so that it will benefit our country's combat wounded in the future. Our country's men and women in uniform count on military medicine to provide them with the best care possible if they are wounded in combat – and we must live up to that trust every day."

**Dr. Frank K. Butler Jr.**



Retired Navy Capt. (Dr.) Frank K. Butler Jr.

1992 and proposed sweeping changes in this care.

"That 1996 article did as much as any other single piece of medical literature to nudge the military medical community forward in modernizing combat casualty care," explained Frumentarius (a pseudonym for a former SEAL/CIA case officer) in a story published on the website sofrep.com in December 2016. "Frank Butler's contributions to TCCC have continued unabated over the course of the 20 years since the publication of the 1996 paper."

Having a road named to honor him means a great deal to Butler, "Because it happened as a spontaneous 'thank you' for TCCC from the Navy docs and Corpsmen at our Role II in Iraq, and they are the ones out there using TCCC to save lives downrange," he said.

"Also, and very importantly, this is a strong endorsement for the work done by the Committee on TCCC and the TCCC Working Group over the last 15 years to improve battlefield trauma care," added Butler. "Many advances

**BUTLER Continues on Page 9**

### CAREY Continued from Page 3

Program. Carey said that he wasn't anticipating orders here, but that he's up for the task.

"This was an opportunity that I did not expect," he said. "Anytime you fill a new position you get the nervous feeling about meeting and exceeding expectations. Simply, I am excited for the challenge."

Carey joined the Army in 1998 and is a medical laboratory specialist (68K). He believes that his experience and diverse duty assignments will help him with his new position. His main objective as the First Sgt. is to create a culture of success in all aspects of the Institute.

"Success breeds success," he said. "I would like to see group success as well as individual success."

As a senior noncommissioned officer, Carey takes the NCO Creed and Army Values seriously because he knows it works. He expects every Soldier to build trust within their teams and sections and to not be afraid to be innovative and creative.

"I don't expect you to be perfect," he added. "Keep your focus on the mission and Soldier welfare. Always work on sharpening your leadership skills."

The best thing that Carey likes about his new job is that he's in a position to develop leaders. He believes that units across the Army do a great job by training Soldiers to do their jobs, but that there needs to be more emphasis on the leaders to train young Soldiers to someday take their jobs.

"This is difficult and requires a lot of commitment upfront from the leaders," said Carey. "But the payoff for the organization and the Army is huge."

When asked if he'd like to make the Company the best in the Army, Carey said, "I see that as a meaningless statement since that is impossible to judge. What we can do is very simple and that is to build a team and a family."

Carey said that he joined the Army to do something different and to go where he could make some type of im-

pact on people for the better. He added that his wife and their three children, who are between the ages of 22 and 17, have kept him grounded.

"They remind me to be myself and to fulfill my expectations," he said.

His leadership philosophy is a three-pronged approach: be honest and be yourself; listen; and be service oriented. He believes that people who are themselves and honest will build trust and be effective. When it comes to listening, Carey believes that when you listen and try hard to see the situation from someone else's perspective that it can give you a greater insight

into what they are saying. And being service oriented means developing leaders.

"That does not mean that we do everything for them," Carey said. "A saying that I like is 'you have to do your own push-ups.' I can set up the environment for them to succeed, but they have to succeed on their own."

The last thing that Carey wants the Soldiers and staff at the USAISR to know about him is that he is here to help the Institute and everyone here be successful.

"If you need something let me know," he said. "We are one team."



Top: First Sgt. Kenneth Carey addresses the USAISR Company after taking charge of the Company Dec. 12.

Bottom: First Sgt. Kenneth Carey turns the Company over to the Squad Leaders after address the Soldiers Dec. 12.

# Safety Notes



By Stephanie L. Truss  
Health, Safety and Environmental  
Specialist

## Everyone Deserves to Make it Home Safe from Work Every Day

According to the Bureau of Labor Statistics 2014 Census of Fatal Occupational Injuries, 4,821 people – more than 13 per day – died while doing their jobs. Implementing safety measures can change these statistics. For more than 100 years, the National Safety Council has been a leader in workplace safety. We know that employers who show they care about the safety of their employees see improved morale, increased productivity, lower costs and most importantly fewer injuries.

You play an active role in the safety program here. One of the easiest ways is to complete Commanders Army Readiness Assessment Program (ARAP) which is a Web-based initiative that provides battalion-level Commanders with one-on-one feedback on key points, issues and or concerns regarding command safety climate,



## In the Spotlight

Spc. Sergio Rubio

**Job title:** Dental Specialist, 68E

**How long have you worked at the ISR?** 1 year, 3 months

**What or who has been an inspiration to you in your work?** Lt. Col. (Dr.) John Decker

**What is your favorite part of your work?** Working in the lab.

**What is your proudest achievement?** Earning my Air Assault Badge.

**Short- and long-term goals:** My short-term goal is to earn my Expert Field Medical Badge and my long-term goal is to reclass to 38B (Civil Affairs).

**Hobbies:** Mixed martial arts, beer connoisseur, family oriented, running.

**Favorite book:** A "With God in Russia" by Walter Ciszek

**Favorite movie/TV show:** The Office/Selena

**Favorite quote:** "Nearly all men can stand adversity, but if you want to test a man's character, give him power." Abraham Lincoln



culture, estimated success of certain safety intervention programs, and other factors relating to their unit's overall readiness. The survey is set up for the participation of the Military, Civilian and Contract staff. Your support is needed now if you have not completed the ARAP use the link and information noted below:

How to: Login into ARAP and take an assessment.

- Step 1. <https://arap.safety.army.mil/TakeSurveyAccess.aspx>
- Step 2. Click on the red button labeled [Take an Assessment]
- Step 3. After reading the instructions, click on [Take Assessment] button or tab.
- Step 4. Select your rank (this is the only demographic the Combat Readiness/Safety Center tracks).
- Step 5. Type in the Access Code [6gAp7RRx]
- Step 6. Click on the Submit button.
- The assessment will take between 10-12 minutes per person. At the end, a certificate may be printed to document the completion of the assessment.

You may recall the roles that many of you played in to attain our star



status. Everyone had to clearly explain three meaningful ways that they are involved in the safety program. Basically, it was really detailing things that we do on a daily basis but really came natural and they were safety related. From reviewing, writing protocols, standard operating procedures for your departments, labs and or sections. Or the day you conducted a detailed hands on training for your staff on a new piece of equipment. It could be the 45 vehicle inspections with weekend safety briefs. It could have been the day you reminded your

**SAFETY Continues on Page 9**

# Health News



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

Seeing red? Yes! Show your heart some love. National Wear Red Day is February 3rd. Heart disease and stroke kills 1 in 3 women every year. That's



why we want to raise awareness no matter what time of the year. Calling All ISR walkers. Wear your red this February 3rd and get a new buddy started on a walking routine with you! February is also American Heart Month, a time to bring awareness to the risks of heart disease and ways to stay "heart healthy." Know and understand your heart health numbers: healthy blood pressure, check your cholesterol, and maintain a healthy weight.

So love the rest of you as well! Prevent Blindness Texas and Prevent Blindness have declared February as Age-related Macular Degeneration/ Low Vision Awareness Month. The primary goal is to educate not only on



AMD and low vision, but also to make the public aware of the free services that the groups provide. The groups host a dedicated website, "The AMD Learning Center," found at [preventblindness.org/mad](http://preventblindness.org/mad), which provides a variety of educational tools including AMD risk factors, treatment options, an Adult Vision Risk Assessment tool and downloadable fact sheets.

National Children's Dental Health Month is also in February. This national health observance brings together thousands of dedicated dental professionals, healthcare providers, and educators to promote the benefits of good oral health to children, their caregivers, teachers and many others.

Remember, heart disease is the leading cause of death for both men and women. So this Valentine's Day: Be passionate about your heart's health by putting some prevention into action. Contact your healthcare provider before starting any diet and exercise program as well as obtaining more information on improving your heart health.



## BUTLER Continued from Page 6

in combat casualty care achieved by the military in wars past have been lost during the ensuing peace interval. After seeing the dramatic reduction in preventable deaths that TCCC has helped to achieve, the U.S. military has to ensure that we sustain this success, so that it will benefit our country's combat wounded in the future. Our country's men and women in uniform count on military medicine to provide them with the best care possible if they are wounded in combat – and we must live up to that trust every day."



## SAFETY Continued from Page 8

co-worker to don or remove their personal protective equipment. The other simple and quick steps are being diligent on your required training and occupational health requirements. This is where leaders play an active role in enforcing policies and regulations.

I challenge you to take a more interactive role in the safety program ask to accompany your area fire and safety monitor on their documented monthly safety inspection. This could be enlightening for you while participating in a new meaningful way. Request to give an in-service and or be the technical reviewer on one of your areas SOP.

As we embark on the next chapter of recertification for the Army Safety Health Management SOH star status to include the Army Safety Center for Excellence streamer we continue to ask that you be an active member of the team, a star player of our star team. Safety requires teamwork. Be a part of our team! Answer the call now.

# Around the ISR

Top right: Sgt. Harvey Harper, along with his wife Kel and daughter Niyah at his reenlistment ceremony Dec. 2.

Bottom right: Capt. Ryan Staab, left, administers the Oath of Reenlistment to Staff Sgt. David Shelley during his reenlistment ceremony Jan. 12.

Bottom left: Col. (Dr.) Shawn Nessen, briefs Lt. Gen. Nadja West, U.S. Army Surgeon General and Commanding General of the U.S. Medical Command on the mission and capabilities of the Burn Flight Center Dec. 14.

Center left: Capt. Troy Dilmar, second from left, briefs Maj. Gen. Thomas Seamands, U.S. Army Resources Command on the mission of 4 East Progressive Care Unit.



## Around the ISR cont.

Top left: Andrew Wallace, left, gives a tour of the Burn Center Dec. 12 to members attending the Army Medicine Experience Tour.



Bottom right: Col. (Dr.) Booker King, left, accepts a plaque from Col. Heather Kness, Brigade Commander, U.S. Army Recruiting Command, after a tour of the Burn Center Jan. 5.

Bottom left: Capt. Cleveland Bryant inspects Spc. Aaron Liddle during a Uniform Inspection Dec. 16.

Center left: Sgt. 1st Class Melissa Arizmendi is pinned with her new rank by her husband, Sgt. 1st Class Ansel Arizmendi during her promotion ceremony Dec. 12



## CRM Continued from Front Page

measurement of the compensatory reserve is the single most important indicator for early and accurate assessment of imminent shock because it represents the body's ability to adjust for the threat of inadequate oxygen in the tissues due to blood loss" said Victor "Vic" Convertino, Ph.D., USAISR Senior Scientist for the U.S. Army Medical Research and Materiel Command Combat Casualty Care Research Program, which funded the research.

The CRI utilizes an algorithm to take information from a standard pulse oximeter placed on the finger of a patient and gauges whether a patient requires resuscitation or immediate medical attention. Equipped with a gauge similar to a fuel gauge in a motor vehicle, the device detects when a patient is in danger of crashing or going into hemorrhage shock. This technology will be beneficial for medics who don't have much experience in the battlefield to care for wounded Warriors needing immediate medical attention.

"FDA clearance is a significant milestone because it paves the way for fielding a compensatory reserve measurement device to give combat medics on the battlefield a tool to predict hemorrhagic shock as well as emergency medical technicians in civilian medical settings," Convertino said. "The ability to measure the compensatory reserve continuously and in real time will revolutionize medical monitoring from early diagnosis of the trajectory toward shock to accurately guiding fluid resuscitation or providing feedback of intervention effectiveness."

Among the first people to try out an early prototype for measuring the compensatory reserve was former Army Surgeon Maj. Gen. Patricia Horoho, who called it a "game changer" during her visit to the USAISR in 2013.

Convertino and his team were able to use the compensatory reserve algorithm to learn from an individual's

own arterial waveform how the body is using its compensatory mechanisms. The research team learned that waveforms obtained from a simple pulse oximeter that is carried by combat medics could be used to generate a compensatory reserve measurement device.

"With newly advanced computer technologies, we now have the capability to measure features of each arterial waveform that reflect the sum of all mechanisms of compensation that affect the heart (ejected wave) and the arteries (reflected wave)," said Convertino.

With analysis of each arterial waveform, the algorithm becomes more accurate in predicting the body's

---

## VOWS Continued from Page 5

Albert lost his lower right when he was hit by a rocket propelled grenade while on patrol in Baghdad, Iraq. They never met while they were hospitalized until that fateful day.

Two years to the day, the couple got married, which was an unexpected surprise to Connie.

"We spent a lot of time together, and I never knew that he liked me like that," she said. "I love him so much; he has been there for me during this whole ordeal."

The Ross' have three children who are 8, 7 and 6 and live in San Antonio. Albert is an automobile and diesel mechanic, and Connie is a teacher at the First Baptist Academy. They are grateful for the opportunity to have had their vow renewal ceremony at SAMMC. It was made even more special with retired Army Col. (Dr.) Evan Renz, former hospital commander and Burn Center director surprising them with his attendance.

"It was touching to have him there," said Connie. "He remembered who I was, which is amazing considering that he cared for hundreds of patients. It just touched my heart and meant a lot to me."

ability to protect itself from inadequate tissue oxygenation (shock) or begin to decompensate.

"The compensatory reserve measurement device will be important for triage because of stressful battlefield conditions," said Convertino. "There's lots of noise, lots of adrenaline, and not much equipment which can make diagnosis especially hard for medics on the battlefield. This device will help medics save lives on the battlefield."

Additionally, the compensatory reserve measurement algorithm was recognized with an Emergency Medical Services "Top 10 Innovation of the Year Award" at the 2014 EMS Today Conference and Exposition in Washington, D.C.

---

"It was a great privilege for me to be invited to the couple's special event," said Renz. "The couple represents a striking example of why our military health system must always remain focused on combat casualty care. These two Soldiers arrived here as individuals more than a decade ago, after faithfully serving and sacrificing for their country. They remain a strong couple who support each other as Veterans."

The ceremony officiant was retired Army Staff Sgt. William Watson. Connie said that William was on the same Medevac flight that transported them to SAMMC. William lost his right leg below the knee from an improvised explosive device while on patrol in Iraq.

"Ever since then, I have considered him my 'Battle Buddy,'" she said.

The last item that made the ceremony special for Connie was that the veil that she wore at her ceremony was the one that her mother wore at her 30-year vow renewal ceremony. She plans to wear the same veil at their 30-year vow renewal ceremony as well.

"Connie's resilience was inspiring to me when I first met her in 2004, and remains so today," added Renz. "Seeing her again further validates the wonderful care provided by our military's medical personnel."

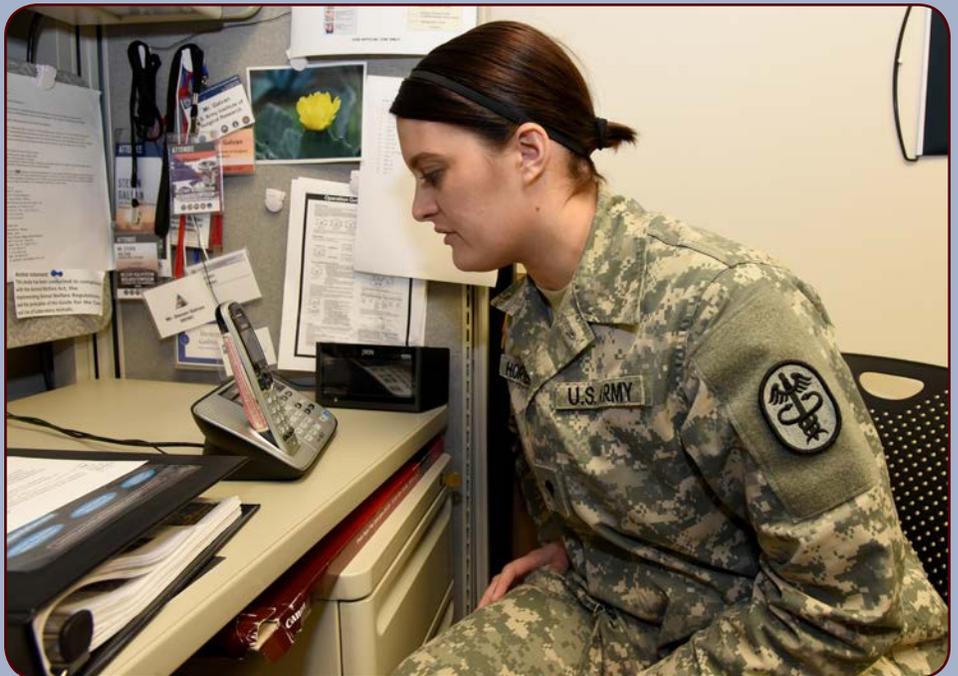
## Memorial for Dr. Matthew Rowan

During an informal ceremony to Maj. (Dr.) Julie Rizzo scatters some of the ashes of Matthew Rowan, Ph.D. on the grounds of the U.S. Army Institute of Surgical Research Jan. 20. Rowan's parents requested that some of his ashes be scattered in several places that personally meant something to him. Rowan's mother said that Matt loved working at the ISR and doing meaningful research for Wounded Warriors. Rowan and his wife Sunday were among the 15 hot air balloon passengers who tragically lost their lives in an accident July 30, 2016 in Maxwell, Texas.



## iHeart Radio Interview "From the Heart"

Spc. Chelsea Hornback conducts a telephone interview with a DJ at iHeart Radio Dec. 15 to tell her story on her efforts to rescue a driver who was swept by a flashflood when her car stalled out while driving to work. Unbeknownst to Hornback, the driver was her coworker at the U.S. Army Institute of Surgical Research, Elsa Guerra. iHeart Radio and U.S. Army Medical Command teamed up to recruit Soldiers to tell their stories to be featured on the radio station throughout the day. Guerra recommended Hornback to interview with iHeart and when the producer heard her story accepted the recommendation. It is unknown when the story will air on iHeart Radio.



## Back When...

Last Month's Answer:



Can you guess who this ISR staff member is? This photo was taken in 1983 when she was nine years old and in the Fourth Grade.



David Trapolsi  
Research Technician

Submit your photo for publication in upcoming issues.

## January Awards Ceremony

### Army Achievement Medal

Sgt. Silvia Matchinske  
Sgt. David Watson  
Spc. Fabian Quattlebaum  
Spc. Troy Dixon  
Pfc. Michael Troia

### Achievement Medal for Civilian Service

Holly Aguridakis  
Kaye Neer  
Kathy Ryan, Ph.D.

### Civilian of the Year

Audrey Premdas

### Certificate of Achievement

Sgt. Luis Sanchez  
Sgt. Jessica Williamson  
Sgt. Ryan Kriner  
Spc. Deveney Gillespie  
Spc. Raymond Calzada  
Spc. Ashley Taylor  
Spc. Isaiah Land  
Spc. Neil Williams

### Order of the Military

Medical Merit  
Kelley Thompson



Col. (Dr.) Shawn Nessen presents Kelley Thompson with the Order of Military Medicine Merit (O2M3) medallion during the January Award Ceremony Jan. 20. Membership in the O2M3 signifies distinguished service which is recognized by the senior leadership of U.S. Army Medical Department. Thompson has served as a Registered Nurse and Physician Assistant at the USAISR Burn Center for more than 20.

