



THE INNOVATOR

OPTIMIZING COMBAT CASUALTY CARE



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Burn Center fills gaps between BICU, Progressive Care

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Burn Center sets new patient admittance record

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CDR's Corner



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

“Optimizing Combat Casualty Care”

Greetings ISR,

2016 is here and January has come and gone with the research and health-care optempo at the Institute continuing at full-speed where we left off in 2015. I'd like to point out that the Burn Center set a record for the most patient admissions last year. Recognizing that a large number of these patients come from our service to Southwest Texas, it demonstrates the important role our Burn Center Team plays in caring for the community while sustaining critical combat skills to perform our wartime mission. Burn Center critical skills sustainment coupled with our continued innovations in combat casualty care research continues our legacy of providing the tools to save lives on the battlefield.

We were reminded of the importance of being a critical skills sustainment platform when we hosted the

Honorable Patrick Murphy, Acting Secretary of the Army and Under Secretary of the Army at the Burn Center in late January. Everything that we do, whether caring for burn patients or conducting research for our combat wounded saves lives on and off the battlefield and supports the Army readiness mission. Everyone should be proud of their contributions to our military and our nation. I'm not only proud to be part of this dynamic organization, but proud of what you do each and every day.

I would also like to thank everyone who took time to participate in a survey for the Army Readiness Assessment Program. We were able to exceed the minimum number of participants required by the Army Safety Center who will conduct an out brief to me and senior members of the staff later this month. I will pass along the results when I am briefed. Once again, thank you for supporting this requirement.

Lastly, I would like to point out that February is Black History Month which gives us an opportunity to celebrate the contributions that African Americans have made in our country in freedom and equality which gives us a better understanding of our country's history. And don't forget about your health as February is also American Health Month. Here are some important dates during the month of February. On Feb. 12 we will observe Lincoln's Birthday and on the 15th Presidents Day and Washington's Birthday. Mardi Gras Carnival kicks off on the 9th and Valentine's Day, as usual will be on the 14th. Finally, this year is a Leap Year and Leap Day will be on the 29th—this only occurs every four years. Here's a "Happy Birthday" to everyone who celebrates their birthdays every four years.

I once again thank you for all that you do every day for our Wounded Warriors and their families. Hooah!
Serving to Heal... Honored to Serve!



The Honorable Patrick Murphy, Acting Secretary of the Army and Under Secretary of the Army bids farewell and thanks Col. (Dr.) Michael Wirt after a tour of the Burn Center Jan. 21.



ARMY MEDICINE

Serving To Heal...Honored To Serve

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SGM Says



Sergeant Major
James L. Devine

Greeting ISR Team,

The Army selects the best of the best for promotion on their potential to lead at the next level. Congratulations to the following for their promotion to the rank of staff sergeant: SSG Rosario, SSG Shelly, and SSG Williams. Congratulations to the following for her promotion to sergeant: SGT Jennifer Grant and congratulations to the following for her promotion to specialist: SPC Chelsea Cates.

The first month of 2016 has come and gone and without fail, the organization hit the ground running. As the Army continues to right size, there are many changes that are going to continue to affect the enlisted Soldiers within our ranks. Many of the tenets that we have been focusing on during our Non-Commissioned Officer Development Programs (NCODPs) have been geared towards posturing the force towards becoming more agile, confident, proactive and adaptive leaders.

I mentioned this in last months' newsletter, but I feel that it cannot be mentioned enough. Developing adaptive and knowledgeable non-commissioned officers is a lifelong, deliberate and progressive process where the leader will synthesize the combination of knowledge and experiences in the institutional, operational and self-development domains. Then, they will impart that knowledge and utilize it to win the nations wars in a complex



Col. (Dr.) Michael Wirt (left) and Sgt. Maj. James Devine (right) with Staff Sgt. Charles Goodwater after being presented with the Army Commendation Medal Jan. 13.

world. It sounds overwhelming, but as leaders, that is what we are charged to do; continuously grow and mold the future generations of Army leaders in the process.

Agility is paramount this year, and there are new proposals on the horizon for the overall readiness of the force. We are currently waiting on Congress to approve that the Regular Army strength. It's uncertain if it will remain at 450,000 or drop to the proposed 420,000. The Army still has to reduce the amount of Soldiers in boots while still simultaneously doing what is necessary to keep the best and brightest in the fight. Reenlistments are conducted to keep the top Soldiers in boots to accomplish the various missions within the operational and generating force.

USAREC still has its mission to recruit future Soldier from the civilian populous. USAREC's command team is requesting that Army Senior leadership consider assigning their best NCOs to Recruiting Command. Recruiters recruit in their "own image" -- those we send to USAREC are

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On the Cover



Ashley Roman (left), a Registered Nurse at the Burn Center Progressive Care Unit and Capt. Mollie Christiansen, the Officer in Charge of the PCU cut a ribbon to open the new Close Observation Bay Jan. 8. the COB is designed for burn patients who require the most care and monitoring in the unit but do not need to be admitted to the Burn Intensive Care Unit.

Company Notes



Company Commander
Capt. Jose A. Juarez

First Sergeant and I would like to welcome the following Soldiers to the ISR family: Lt. Col. Gregory Bramblett, Staff Sgt.(P) Timothy Hair, Sgt. Aliceann Meyer, Sgt. Jessica Williamson, Spc.(P) Elizabeth Babcock and Spc. Deveney Gillespie. Please welcome these folks into the ISR family, if you haven't already. We would like to say farewell to the following Soldier: Capt. Caitlin Scarborough, Staff Sgt. (P) Charles Goodwater, Staff Sgt.(P) Michica Trillo, Staff Sgt. Jaffster Daus, and Sgt. Danielle Miller; thank you for your contributions to the organization and best wishes in your future endeavors.

Congratulations to Sgt. Kenneth Venable for graduating Advanced

Leaders Course. Job Well Done Sgt. Venable!! We would like to thank everyone who attended the graduation, great way to support and build our Team! Be sure to congratulate him when you see him around.

Congratulations to Sgt.(P) David Shelley, Sgt.(P) Francisco Rosario and Sgt.(P) Jamar Williams for their selection to promotion to Staff Sergeant and to Spc.(P) Jennifer Grant and Spc.(P) Elizabeth Babcock on their selection for promotion to Sergeant for February 2016!! Please congratulate these NCOs when you see them around. Great job by all of you and well done!!

We would also like to welcome home Lt. Col.(P) Jennifer Gurney, Lt. Col. Jonathan Lundy, and Capt. Ryan Staab from their tours to Afghanistan.

We also held our NCO and Soldier of the Month competition for January. Please congratulate Sgt. Tamara Saxton and Spc. Robert Sadowski for a job well done!

It's hard to believe that we are already through one month of 2016. Seems like just yesterday we were celebrating Thanksgiving, then Christmas, then New Years. The last quarter has been a fast three months and it doesn't seem to be slowing down much. Continue to challenge yourselves and start changing the norm, start getting outside of your comfort zones and seize the opportunities. Before you know it



Spring will be here, then Summer and then Winter and 2016 will be history. Don't let 2016 pass you by, make it a goal of yours to accomplish something different, something you've always wanted to do but just never did. Let's make it a great year ISR!

Upcoming events: February is Black History Month. I urge everyone to get out and enjoy some of the events that'll be set up throughout JBSA and even at SAMMC. Our EO team will be involved in setting something up, more to follow on time and dates. February also brings us many special days. February 2 is Groundhog Day, hopefully he doesn't see his shadow, I don't know if I can bear six more weeks of the harsh winter temperatures in San Antonio, February 7 is Super Bowl Sunday, special day for you sports buffs, should be a great game between the oldest quarterback to ever start a Super Bowl and one of the youngest, wonder how that'll go, February 9 is National Pizza Day, for all you pizza lovers, your commander's guilty of this, February 14 is Valentine's Day, so this serves as your reminder to go out and get that special someone something nice, we also have an opportunity to earn a 4 Day weekend on February 12-15, but to earn this one, we will have to put in some work.

February will be gone before we know it, so let's make it the best month we can. Let's have fun this year!

Thank you all for everything that you all do every day and it is truly an honor to be your Commander and First Sergeant!
Serving to Heal... Honored to Serve!



NCO of the Month
Sgt. Tamara Saxton



Soldier of the Month
Spc. Robert Sadowski

Burn Center fills gaps between BICU, Progressive Care

Story and photos by Steven Galvan
USAISR Public Affairs Officer

A few days after having a ribbon cutting ceremony to open the new Close Observation Bay at the U.S. Army Institute of Surgical Research Burn Center Progressive Care Unit at Fort Sam Houston, Texas, burn patients were admitted to put the new capability into action. The new COB will be manned by two nurses around the clock and will serve as a step-down unit for the Burn Intensive Care Unit where patients will be closely monitored and provided care when needed.

According to Andrew Wallace, the PCU Assistant Officer in Charge, the COB is designed for burn patients who require the most care and monitoring in the unit but do not need to be admitted to the Burn Intensive Care Unit.

“This means that we can keep the sickest patient in one location to be managed and cared by a separate team of nurses,” said Wallace.

Sixteen nurses from the PCU volunteered to be assigned full-time to the COB. Wallace also stated that the COB is not only beneficial to the patients but to the entire staff as well.

“The nurses in the COB will be able to provide more complex burn care and treatment that is not normally provided in the PCU thus increasing their knowledge and skillset,” he said.

The other benefit is that nurses who are caring for the other patients in the PCU can concentrate on discharging patients and providing education to them and their families on burn care and treatment at home.

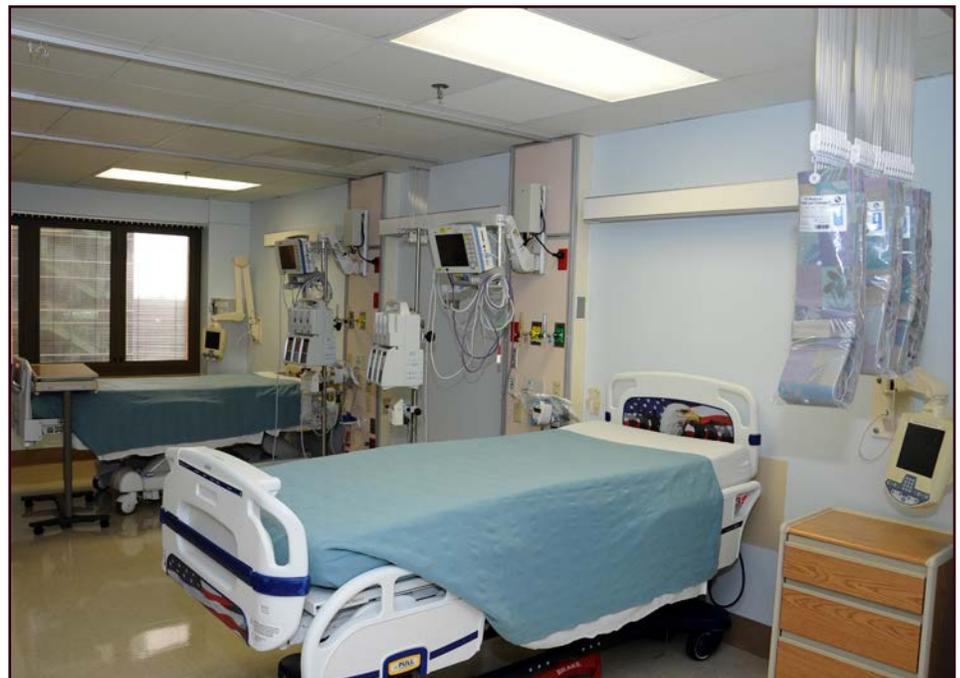
“This means that we can give them more information on how to adapt to their lives with their burns and show them how to care for their wounds,” Wallace said. “We also let them know what they can expect in regards to the short and long term care for their injuries.”

Wallace added that designing the COB was a team effort involving the Burn Center leadership and the PCU

staff that will be an overall cost-saving measure.

“It costs more for patients to stay in the BICU,” said Wallace. “We’re not only helping to keep costs down, but

we’re also helping patients transition into the PCU which shows progression. This lets them know that there’s light at the end of the tunnel and they’ll be going home soon.”



The Close Observation Bay nurses' station (top) and patient beds were set up and ready for patients during the ribbon cutting ceremony Jan. 8.

Burn Center sets new patient admittance record in 2015

By Steven Galvan
USAISR Public Affairs Officer

The U.S. Army Institute of Surgical Research Burn Center at Fort Sam Houston, Texas, set a new record in 2015 with the most patients being admitted in a calendar year. In 2015 there were 819 patients admitted to the Burn Center with the previous record was set in 2012 at 793.

Burn Center Director Col. (Dr.) Booker T. King confirmed the numbers stating that 30 patients were military Service Members – two from Operation Freedom’s Sentinel in Afghanistan, 43 were Department of Defense beneficiaries and the remainder of the patients were civilians from the South Texas region.

Collocated at the San Antonio Military Medical Center, the USAISR Burn Center is the sole burn unit for the DOD and the largest burn center in Texas. Since 2003, 992 combat burn casualties and more than 4,500 civilians have been treated by approximately 300 medical professionals.

According to King, treating burn patients is a complex process and it is essential for burn care providers to maintain their proficiency to care for service members and civilian patients.

“Every time that I have deployed to a combat zone the majority of the patients were civilians,” he said.

King added that maintaining skills is necessary in order to save lives during wartime. The burn center staff provides pre-deployment training to combat care providers.

“For some this is their first exposure to critically burned and injured Warriors,” said King. “We are also important to the military because of the combat casualty care research that we conduct for the battlefield wounded.

“So we are an important combat skills sustainment platform. We have to stay engaged in burn care treatment to maintain that skill. It’s not like a switch that you can turn on and off. No one knows when or where the next big

conflict is going to be, but we have to be ready.”



Top: Along with breaking the record for the most patients admitted in 2015, the staff at the Burn Center’s two operating rooms were also busy with a total of 964 cases throughout the year.

Bottom: Col. (Dr.) Booker T. King (right), Burn Center Director and Capt. Celia Dial, a staff nurse at the Progressive Care Unit discuss a patient’s status and care procedures.

Patients Return to Thank Burn Center Staff



During the last couple of months two burn patients returned to the Burn Center to thank the staff for the care provided during their stay as inpatients.

Top: Second Lt. Marcelo Rodriquez, a pilot student in the El Salvador Air Force returned in December to thank the staff at the Burn Center Progressive Care Unit.

Bottom: Maj. (Dr.) Julie Rizzo (center) a burn surgeon and Col. (Dr.) Booker T. King (right) Burn Center Director are presented with a token of appreciation Jan. 20 by the Austin, Texas Fire Department Executive Staff for the care they provided Firefighter Jimmy Cesares, third from right.

SGM continued from page 3

shaping the future of our Army. The USAISR is leading the way in that aspect. Congratulations to Sgt. Andrew Ludescher's selection to become an

Army Recruiter.

Transparency is integral within any organization and knowledge is power. Having the ability to make informed

decisions is what keeps people safe, alive and well, on and off the battle-field. Each Soldier holds the key to their personal and professional success.

Safety Notes

By Stephanie L. Truss
Health, Safety and Environmental Specialist



Safety is Everybody's Business

Over the last few years we had a major push to accomplish our Safety Occupational Health Star status. All in all it was basically fine tuning certain characteristics, roles and functions that were already in place. Our large task was to promote and create creative methods for employee involvement. With the successful accomplishment of these tasks we do not want lose sight of these capabilities and continue to use them.

Take a look at your safety and health system. Some components may be strong and others may need to be strengthened. The following sections describe these key factors and give ideas about how to make them part of your program.

I. Leaders at all levels need to make a commitment

Put as much energy into your commitment to safety and health as you put into any other important part of your business. Make sure to include workplace safety and health in your section, division, clinic and or specific area of operations plan and integrate it into all facets of the day to day business.

- Begin, close and/or mindfully note within meetings with a safety topic.
- Encourage employee participation in safety and health.
- Let employees know they will be expected to follow safe work practices if they work for your business. And follow them yourself.
- Respond to all reports of unsafe or unhealthy conditions or work practices.

In the Spotlight

Dallas R. Burelison

Job title: Education Branch Chief

How long have you worked at the ISR? 1 year 10 months

What or who has been an inspiration to you in your work? This list goes on and on. Personally, I can't begin to thank all the mentors that I've had in my life. Cdr. Tilford Clark has been an inspiration and dedicated mentor of mine throughout my career. Mary Ann Spott, continues to push me in my endeavors, challenges me professionally on a daily basis and accepts nothing but excellence. Finally, Capt. Stockinger who pushes the status quo and makes me think outside the box. Without these individuals (and many more) I wouldn't be the person I am today.



What is your favorite part of your work? The contributions we make to advance combat casualty care.

What is your proudest achievement? Completing my MBA and starting my Ph.D.

Short- and long-term goals: Personally, my short-term goal is to finish my Ph.D. from Our Lady of the Lake University. My long-term goal is to secure a position in a leadership capacity in healthcare, utilizing my education and experience.

Hobbies: Crossfit, Basketball and Baseball

Favorite book: *Why Hospitals Should Fly* by John Nance

Favorite movie/TV show: *Goodwill Hunting*

Favorite quote: "So live your life that the fear of death can never enter your heart. Trouble no one about their religion; respect others in their view, and demand that they respect yours. Love your life, perfect your life, beautify all things in your life. Seek to make your life long and its purpose in the service of your people. Prepare a noble death song for the day when you go over the great divide. Always give a word or a sign of salute when meeting or passing a friend, even a stranger, when in a lonely place. Show respect to all people and grovel to none. When you arise in the morning give thanks for the food and for the joy of living. If you see no reason for giving thanks, the fault lies only in yourself. Abuse no one and no thing, for abuse turns the wise ones to fools and robs the spirit of its vision. When it comes your time to die, be not like those whose hearts are filled with the fear of death, so that when their time comes they weep and pray for a little more time to live their lives over again in a different way. Sing your death song and die like a hero going home." Tecumseh

- If injuries or illnesses occur, make it your business to find out why.
- Go beyond the regulations. Address all hazards, whether or not they are covered by laws.

II. Involve employees

In a safe and healthy workplace, employees have a stake in the success of the program—safety and health is everyone's responsibility. Actively encourage employee involvement if you

want your program to succeed. Hold people accountable and makes sure everyone does their part.

- Establish an active workplace safety and health safety committee.
- Make daily safety inspections part of some employees' jobs.
- Keep employees informed about safety inspections, injury and illness statistics and other safety-re-

SAFETY continues on page 15

Health News

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



So it's February which means its American Heart Month and your goal should be to focus on your health and wellness. To love your heart! This is perfect timing to focus on "The Soldier Medical Readiness Campaign Plan."

The health promotion and wellness initiatives within the SMR-CP are focused on coordinating and supporting services that promote physical activity, healthy weight and tobacco-free living. These three areas are in alignment with the National Prevention and Health Promotion Strategy as factors that impact injury risk and human performance. They also support the Army Surgeon General's Performance Triad. Soldiers who engage in regular physical activity, maintain a healthy weight and live tobacco free lives build personal health, reduce their risk of injury and improve their unit's physical readiness. This in turn leads to a healthier lifestyle and loving your heart.

Installation-based health promotion and wellness programs for Soldiers and family members include Army Wellness Centers and Health Promotion Offices. These are your community resources providing Soldiers and family members with fitness and healthy lifestyle programs to improve their health and wellbeing. CHPCs provide oversight, monitoring, coordination and evaluating all health promotion, risk reduction, and suicide prevention initiatives on the installation. Additional resources and programs on nutrition, tobacco-free living, physical

fitness and training are available.

In line with American Heart Association Life Simple 7 checklist are the Army Medicine 2016 Health Goals:

- 2016 Health Goal: Manage Stress. Prolonged, severe bouts of stress can affect your body, mood and behavior, leading to illnesses, lack of motivation and angry outbursts. Developing healthy coping skills and avoiding over-committing are essential to remain cool and collected under pressure. All of the military service branches offer programs to help service members and their families cope with problems, do better in stressful situations and thrive in general.
- 2016 Health Goal: Be smoke-free. Quitting smoking or chewing tobacco takes resolve, but there are plenty of resources available to help you. Keep in mind the new tobacco free campus policy will soon be here.
- 2016 Health Goal: Get screenings and vaccinations. Routine screenings can alert you to potential problems before they become full-blown health crises.
- 2016 Health Goal: Eat well, start moving and get adequate sleep. Focusing on nutrition, physical activity and sleep at the same time can improve your cognitive and physical performance, slow down the aging process and help prevent diseases and injuries.
- 2016 Health Goal: Learn more about healthy living.

To make this easier for you, did you know that Army Public Health Nursing staff marked the grand opening of their facility last November? The new facility offers a wide range of support, from tobacco cessation and nutrition to stress management and health assessments. Although there is awareness about the importance of a healthier lifestyle many people don't act on these messages. The importance is to know your numbers (cholesterol, BP, FBS etc.) and speak to your doctor about improving your score and as close as possible to the ideal. Keep it simple, create realistic goals, be patient.

To further promote health, an Army Wellness Center is scheduled to open soon this year. The Army Wellness Center, to be collocated with Public Health, will offer a variety of services to beneficiaries, including metabolic assessments, body composition analysis, submaximal Vo2 testing and fitness assessments, biofeedback training, and a variety of health education classes. For more information, visit Public Health at 2407 N. New Braunfels, Bldg. 147, call 916-4626 or ask for a referral from your occupational health office.

In addition to wearing Red this month, here are other health related items to keep in mind during February: Age related Macular Degeneration Awareness Month, Kids ENT Month, Children's Dental Month, Wise Health Care Consumer Month, Burn Awareness Week, Eating Disorders Awareness Week, Cardiac Rehabilitation Week, Cardiac Professional Week.



Around the ISR

Top left: Capt. Jose Juarez, left, presents Sgt. Jessie Rodriguez with an Honorable Discharge and Reenlistment certificates during his reenlistment ceremony Jan. 29. Photo by Sgt. Nguvan Uhaa.

Top right: Andrew Wallace, right, describes the equipment used by the Burn Center Flight Team Jan. 7 to members attending the Army Medicine Experience Tour.

Bottom right: Burn Center staff pose with Sgt. Maj. of the Army Daniel A. Dailey, center, during his visit to the Burn Center Jan. 8.

Bottom left: Sgt. Francisco Beloso, right, inspects Sgt. Brian Brown before his promotion board Jan. 7.



Around the ISR Continued

Top right: Col. (Dr.) Richard Williams, left, presents Lt. Col. (Dr.) John Decker with his promotion certificate during his promotion ceremony Jan. 11.

Center right: Maj. Scott Phillips administers the Oath of Reenlistment to Sgt. Wilfredo Martinez Jan. 8.

Bottom right: Lt. Col. (Dr.) Kevin Chung, center, explains the extra membrane oxygenation capability at the Burn Center Jan. 21 to the Honorable Patrick Murphy, Acting Secretary of the Army and Under Secretary of the Army.

Bottom left: Lt. Col. Robert Carter, Capt. Elaine Por, Capt. Mellisa Kottke and Maj. Benjamin Rowe pose for a group photo as the Institute's 71B, biochemists/physiologists.

Top left: Sgt. Supal Udas recites the Oath of Reenlistment being administered by Capt. Rebecca Escobar Jan. 5.





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

Compensatory Reserve Index

Predictors of the onset of hemodynamic decompensation during progressive central hypovolemia: comparison of the peripheral perfusion index, pulse pressure variability, and compensatory reserve index.

Janak JC, Howard JT, Goei KA, Weber R, Muniz GW, Hinojosa-Laborde C, Convertino VA.
Shock



Jud Janak

Vic Convertino

INTRODUCTION:

The purpose of this study was to compare the discriminative ability of the following three measures to predict the onset of hemodynamic decompensation: peripheral perfusion index (PPI), pulse pressure variability (PPV), and the compensatory reserve index (CRI). MATERIALS AND METHODS: There were 51 healthy participants who underwent a progressive simulated hemorrhage to induce central hypovolemia by lower body negative pressure (LBNP). RESULTS: Compared with both PPV (ROCAUC=0.79) and PPI (0.56), the CRI (0.90) had superior discriminative ability to predict the onset of hemodynamic decompensation. Further, CRI was the only measure with mean predicted probabilities of the onset of hemodynamic decompensation that progressively increased as the level of simulated hemorrhage increased. CONCLUSION: Consistent with previous research, the CRI had superior discriminative ability to predict the onset of hemodynamic decompensation. For those patients at greatest risk for developing impending circulatory shock, identifying the most sensitive and specific measures of the onset of hemodynamic decompensation is critical for both the early recognition and implementation of life-saving interventions.

Hemorrhage

Resuscitative endovascular balloon occlusion of the aorta (REBOA): Comparison with immediate transfusion following massive hemorrhage in swine.

Park TS, Batchinsky AI, Belenkiy SM, Jordan BS, Baker WL, Necsoiu CN, Aden JK, Dubick MA, Cancio LC.
J Trauma Acute Care Surg



Lee Cancio

BACKGROUND: Resuscitative endovascular balloon occlusion of the aorta (REBOA) is less invasive than emergency department thoracotomy for the treatment of massive hemorrhage. The authors evaluated the effects of REBOA on carotid blood flow (Qcarotid) in a porcine model of massive hemorrhage. METHODS: Spontaneously breathing sedated Sinclair pigs underwent exponential hemorrhage of 65% total blood volume in 1 hour. They were randomized into three groups. Positive control (PC) underwent immediate transfusion of shed blood. REBOA received a novel 7 Fr ER-REBOA catheter placed into aortic Zone 1 via a femoral artery introducer for 30 minutes or 60 minutes, with transfusion either after deflation or midway through inflation. Negative control received no resuscitation. Qcarotid was recorded continuously using an ultrasonic flow probe. Survival and time between Qcarotid, min and both a stable maximal value (Qcarotid, max) and restoration of baseline flow (Qcarotid, new BL) were compared by Kaplan-Meier analysis. RESULTS: Median time to Qcarotid, max was 3.0 minutes in the REBOA group versus 9.6 minutes in the control group. Median time to Qcarotid, new BL was 6.0 minutes in the REBOA group versus 20.5 minutes in the PC group. Slope of the linear regression between Qcarotid, min and Qcarotid, new BL was 16.7 in REBOA and 10.4 in PC. Four-hour survival was 95% in the REBOA group versus 71% in the PC group and 0% in the negative control group. CONCLUSION: REBOA resulted in the restoration of Qcarotid (“cerebrovascular resuscitation”) at least as rapidly as retransfusion of shed blood, with equivalent 4-hour survival.

Allograft

Inability to determine tissue health is main indication of allograft use in intermediate extent burns.

Fletcher JL, Cancio LC, Sinha I, Leung KP, Renz EM, Chan RK
Burns



Rodney Chan

INTRODUCTION: This study explores the indications for allograft usage in moderate size burns. **METHODS:** Under an IRB-approved protocol, patients admitted to our burn unit between March 2003 and December 2010 were identified through a review of the burn registry. Data on allograft use, total burn surface area, operation performed, operative intent, number of operations, intensive care unit length of stay, and overall length of stay were collected and analyzed. **RESULTS:** In the study period, 146 patients received allograft during their acute hospitalization. Twenty-five percent of allograft recipients sustained inter-

mediate-extent burns. Patients with intermediate-extent burns received allograft later in their hospitalization than those with large-extent (50-75% TBSA) burns (6.8 days vs. 3.4 days, $p=0.01$). Allografted patients with intermediate-extent burns underwent more operations (10.8 vs. 6.1) and had longer hospitalizations (78.3 days vs. 40.9 days) than non-allografted patients, when controlled for TBSA. Clinical rationale for placement of allograft in this population included autograft failure, uncertain depth of excision, lack of autograft donor site, and wound complexity. When uncertain depth of excision was the indication, allograft was universally applied onto the face. In half of allografted intermediate-extent burn patients the inability to identify a viable recipient bed was the ultimate reason for allograft use. **CONCLUSIONS:** Unlike large body surface area burns, allograft skin use in intermediate-extent injury occurs later in the hospitalization and is driven by the inability to determine wound bed suitability for autograft application. Allograft application can be utilized to test recipient site viability in cases of autograft failure or uncertain depth of excision.



Dr. Lee Cancio, left, is presented with a Combat Casualty Care Research Program coin for earning the Top Paper of the Month Jan. 27 by Lt. Col. (Dr.) Kevin Chung, Research Director.

Photo by Lt. Col. (Dr.) Kevin Akers

TRANSLATIONAL RESEARCH

Pain

Prior stress exposure increases pain behaviors in a rat model of full thickness thermal injury.

Nyland JE, McLean SA, Averitt DL.
Burns

Polytrauma

Procoagulant and Fibrinolytic Activity after Polytrauma in Rat.

Wu X, Darlington DN, Cap AP.
Am J Physiol Regul Integr Comp Physiol.

ARDS

Low-Dose Heparin Anticoagulation During Extracorporeal Life Support for Acute Respiratory Distress Syndrome in Conscious Sheep.

Prat NJ, Meyer AD, Langer T, Montgomery RK, Parida BK, Batchinsky AI, Cap AP.
Shock.

CLINICAL RESEARCH

Machine learning

Machine learning in burn care and research: A systematic review of the literature.

Liu NT, Salinas J.

Burns

Flap

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

Long term outcomes

Procoagulant and Fibrinolytic Activity after Polytrauma in Rat.

Stewart IJ, Sosnov JA, Howard JT, Orman JA, Fang R, Morrow BD, Zonies DH, Bollinger M, Tuman C, Freedman BA, Chung KK.

Circulation

Postdischarge Cause-of-Death Analysis

Postdischarge Cause-of-Death Analysis of Combat-Related Burn Patients.

Escolas SM, Archuleta DJ, Orman JA, Chung KK, Renz EM.

J Burn Care Res.

PTSD/PPCS

Completion of Multidisciplinary Treatment for Persistent Postconcussive Symptoms Is Associated With Reduced Symptom Burden.

Janak JC, Cooper DB, Bowles AO, Alamgir AH, Cooper SP, Gabriel KP, Pérez A, Orman JA.

J Head Trauma Rehabil

EXTRAMURAL COLLABORATION

Bone repair

BMP6-Engineered mscs Induce Vertebral Bone Repair in a Pig Model: A Pilot Study.

Pelled G, Sheyn D, Tawackoli W, Jun DS, Koh Y, Su S, Cohn Yakubovich D, Kallai I, Antebi B, Da X, Gazit Z, Bae H, Gazit D.

Stem Cells Int

Malaria

Attenuation of Plasmodium falciparum in vitro drug resistance phenotype following culture adaptation compared to fresh clinical isolates in Cambodia.

Chorattanakawee S, Lanteri CA, Sundrakes S, Yingyuen K, Gosi P, Chanarat N, Wongarunkochakorn S, Buathong N, Chann S, Kuntawunginn W, Arsanok M, Lin JT, Juliano JJ, Tyner SD, Char M, Lon C, Saunders DL.

Malar J.

Surgical instruments

A Novel Method to Decontaminate Surgical Instruments for Operational and Austere Environments.

Knox RW, Demons ST, Cunningham CWJ

Wilderness Environ Med.

Dengue

Dengue neutralizing antibody kinetics in children after symptomatic primary and post-primary dengue virus infections.

Clapham HE, Rodriguez-Barraquer I, Azman AS, Althouse BM, Salje H, Gibbons RV, Rothman A, Jarman RG, Nisalak A, Thaisomboonsuk B, Kalayanaroj S, Nimmannitya S, Vaughn DW, Green S, Yoon IK, Cummings DA.

J Infect. Dis

Trauma

The association between the Th-17 immune response and pulmonary complications in a trauma ICU population.

Holloway TL, Rani M, Cap AP, Stewart RM, Schwacha MG

Cytokine

Biofilm/Bone formation

D-amino Acid Inhibits Biofilm but not New Bone Formation in an Ovine Model.

Harmata AJ, Ma Y, Sanchez CJ, Zienkiewicz KJ, Elefteriou F, Wenke JC, Guelcher SA

Clin Orthop Relat Res

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- Give everyone a meaningful activity that supports safety.
- Value employee input and feedback. Employees often know more about safety problems and solutions than managers do.
- Make sure employees help review and improve the program.
- Hold employees accountable
 - Include safety and health responsibilities in job descriptions. Make following safe work practices part of performance evaluation.
 - Set safety goals and hold everyone accountable.
 - Discipline employees who behave in ways that could harm themselves or other.
 - Establish a clear system for reporting hazards, injuries, illnesses and close calls.
 - Recognize employees who contribute to keeping the workplace safe and healthy.

III. Identify and control hazards

Before you can control hazards you need to know what the hazards are. Here are some ways to identify safety and health hazards:

- Review trends of accidents, injuries, illnesses, near miss and close calls
- review OSHA logs (posted annually just outside the Safety Manager's office and will be electronically posted in the future)
- look for trends or common factors in
 - kinds of injuries or illnesses
 - parts of body
 - time of day/shift
 - location
 - equipment
 - protective equipment
 - department
- Survey employees. Hence the participation in the Army Readiness Assessment programs and other like surveys are a key part in employee involvement.
- Review inspection reports from enforcement inspections. This is a perfect example of lessons learned.
- Learn the OSHA regulations that

have to do with your workplace.

- Inspect your workplace for safety and health problems, current and potential.
 - Watch employees work to spot unsafe work practices.
 - Perform Job Hazard Analysis. Messages will be coming out and your sections will begin the annual revisions that will require your review, input and signatures.
 - Conduct air and noise sampling where exposures exist. Believe it or not these are conducted on a regular basis for areas that have the potential hazards.

Once you know the hazards, you can decide how to control them. Seek assistance and guidance from the USAISR Safety Manager.

- Prioritize the hazards you found
 - Which are most likely to cause serious injury or illness?
 - Do you have to make long term plans to correct some of the hazards?
- Make a plan for correcting the hazards with the assistance of the USAISR Safety Manager.
 - Conduct job hazard analysis to identify how best to correct the hazards
- Correct the hazards
 - Engineering controls eliminate the hazards through safe tools, facilities, and equipment. These are the best controls.
 - Administrative controls don't remove the hazards; they reduce exposure by changing the work practices. For instance, rotating workers, rest breaks and training programs.
 - Personal protective equipment puts a barrier between the employee and the hazard, using, for example, gloves or safety shoes.

If you use personal protective equipment, you have to assess the hazard beforehand and train employees the right way to use the equipment.

- Evaluate the changes to make sure they have corrected the problem

and not created other hazards. And periodically re-survey the work environment and work practices.

IV. Comply with regulations

There are certain OSHA regulations that apply in to our workplaces and we must comply with them.

V. Train Employees

Train personnel about the hazards they may be exposed to at work and how to protect themselves. Keep records of all training.

Provide:

- General safety orientation for new employees and employees starting new jobs, including company safety regulations and emergency procedures.
- Specific training on the hazards of their jobs and how to do their jobs safely. (Many OSHA standards include specific training requirements)
- Retraining
 - As required by the standards
 - When jobs change
 - When employees return from long absence
 - As needed to ensure employees know how to do their jobs safely.

VI. Support a culture of safety

Workers hold safety as a value; they actively care about themselves and others. Mutual respect is the norm. Again our role is to ensure we take consideration of hazards and risk in mind to ensure and promote a safe and healthy environment.

- Establish effective two-way communication. Respond to the needs and concerns of workers.
- Make sure management goes beyond the regulations to ensure a safe workplace.
- Encourage workers to go "beyond the call of duty" to ensure a safe workplace.
- Support a work environment that fosters trust, creativity, and general well-being.

VII. Continually improve our system

Review our program's strengths and

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Back When...



Can you guess who this ISR staff member is? This photo was taken in 1995 when he was in Kindergarten in Lima, Peru.

Last Month's Answer:



Maj. Rebecca Morrell
Chief, Burn Physical Therapy

Submit your photo for publication in upcoming issues.

Library News



By Gerri Trumbo
Library Manager

This is the time of year when our subscriptions and electronic content are usually in the process of being renewed or established, and the vendors are waiting for our dollars. So to remind you, if you can't reach a publisher through LEAP (TDNet), it is probably because the vendor has suspended service until payment is received. It can be a lengthy process in some cases.

Please be assured that the library staff will be more than happy to obtain your articles or papers through Inter-library Loan during this interim. If you can't get at something, just send us the citation and we will act upon it promptly.

I will again urge you to use LEAP and its PubMed LinkOut feature to do you is searching for full text. If you do so, you will be able to pull up your full text material quickly. The maroon colored USAMRMC symbol will be in the upper right corner of your PubMed citation.

This also works with Google Scholar. If using Google Scholar here at your desktop, you will pull up the USAMRMC symbol/link if you click on a particular paper in Google Scholar. Although I do not personally recommend Scholar for completeness, accuracy and reliability, it can be a good last resort to get you something.

Please feel free to stop in the Library anytime for demos and/or information on our databases and electronic resources.

Thank you for using the ISR Library.

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weaknesses. Does it accurately reflect how you want to manage safety and health? This could be during your annual SOP, chemical inventory, employee job hazard analysis, risk assessments preparations and reviews.

- Review annually and as needed
- Investigate accidents, injuries, illnesses and close calls as they occur.
- Conduct frequent (daily, weekly as needed) inspections of specific equipment and processes.
- Evaluate your injury and illness statistics
- Document all your safety efforts.
- Change analysis: Review new and changed processes, materials, facilities and equipment for hazards
- Ensure hazard correction systems are in place and working
- Evaluate effectiveness of training

Listen to your staff: Do employees know the hazards of their jobs and

how to work safely? Are managers enforcing safe work practices and praising safe behavior?

Now ask yourself what is my role and where do I fit in the organizations vision with Safety. "The Nation's premier Tri-Service research organization that integrates safety into planning and executing registry-based and translational Research providing innovative solutions for burn, trauma and combat casualty care from time of injury through rehabilitation."

