



# MHSRS

Review

# 2016

AUG. 15-18 KISSIMMEE, FLORIDA

# LETTERS

It's  
uncanny,  
really.

Of all the Military Health System Research Symposium's many strengths, perhaps its most unique is the ability to evolve without ever truly changing. And if that sounds odd –if not impossible– then consider this: in just the past three years alone, while setting records for attendance, international representation, and overall impact, the MHSRS has continued to hold its position as the DoD's premier annual scientific meeting; a place where contemporary science meets with endless possibility to provide the proper tools and knowledge to support the health and resiliency of the military warfighter.

This is, quite simply, what happens when you work on the leading edge each day. It's what happens when you operate at the tip of the spear, as the tool tasked with breaking through to the next level of understanding. It's what happens when you solve today's problems using tomorrow's technology - all while bridging the gap with a steady and knowing hand.



And so in this vein we present the Leading Edge, a brief roundup of the sights, science, and reactions gleaned from the 2016 MHSRS. Held in August and featuring more than 2,500 high-profile attendees from across the military, scientific, and academic worlds, the 2016 MHSRS continued its role as the centerpiece of the military medical event calendar; a place where a singular focus on mission goals translates into real and palpable solutions to contemporary problems. You may see more clearly where our research stands today, and where our research will focus tomorrow.

By gathering here a small and varied collection of news articles, photographs, and first-person accounts of the benefits of MHSRS, we hope to give you a taste of all the symposium has to offer – a snapshot of all the efforts, people, and successes this event has allowed us to highlight, meet, and applaud.

The material here has been presented previously, in one form or another, in more than two dozen other military and private sector news outlets. We bring it to you here, now, so that you may see more clearly where our research stands today, and where our research will focus tomorrow.



LEADING



**MHSRS Speakers:**

# The Future is Now

By Defense Health Agency staff

An important question military medical research faces is if it is ready for what the future will bring and the role that research arm plays.

“Research is related directly to our readiness,” said Dr. Karen Guice, the acting assistant secretary of Defense for Health Affairs, adding the Military Health System’s role in the medical aspect of readiness is its top priority. “Some components of our military must be ready 100 percent of the time. Military medicine must rise to the occasion to provide the support necessary. We also have to be combat ready 100 percent of the time.”

Guice helped kick off the Military Health System Research Symposium, starting Aug. 15 and running through Aug. 18 in Orlando, Florida. The conference is the Department of Defense’s premier scientific annual meeting and brings together nearly 2,500 military, academic and private health sector researchers to discuss advances and ways forward for the military’s medical system.

She was joined by Navy Rear Adm. Colin Chinn, in charge of the Defense Health Agency’s (DHA) Research, Development and Acquisition Directorate. Chinn explained his directorate

is part of the larger DHA effort to support the military services, strengthen DHA’s role as a combat support agency and optimize the agency’s operations. He pointed to advances in innovative research on infectious diseases, such as the fight against Ebola in Africa and the Zika virus worldwide. The key, according to Chinn, is to get the necessary tools into the hands of caregivers so they can save lives.

“How can we get more products to the field, more knowledge into the hands of our clinicians?” asked Chinn. “We need to [...] identify gaps out there that we can apply our research dollars to.”

An important part of getting the most out of the military’s medical research efforts is to join forces with other governmental agencies, academia and the private sector, such as those represented by attendees of the MHSRS.

To that point, Dr. John Holcomb, with the University of Texas Health Science System in Houston and a retired Army doctor, told those at the opening session it’s important to take advantage of the medical lessons learned during the wars in Iraq and Afghanistan for the good of the



military's trauma system, as well as what the civilian sector can learn from those lessons. "What's different about this time period than others is that there's an organized civilian trauma system to receive those lessons learned from the military," said Holcomb. "That didn't exist at the end of Vietnam. It's an interesting little twist on how we can transition and work together."

Dr. Richard Thomas, the new president of the Uniformed Services University of the Health Sciences, spoke Monday,

Aug. 15 at MHSRS 2016. In his address, he reminded everyone there are still service members deployed around the world and that, "Combat has always been the greatest single catalyst to medical innovation."

"The United States is the only nation that can project combat power anywhere around the globe. We're also the only nation that can project medical power the way we do," he said. "We are the foundation for readiness." Maj. Gen. Barbara Holcomb, commander of the Army's Medical Research and Materiel Command, said, considering

the global nature of U.S. forces, the medical support of those warfighters is challenging. Research is key to success.

"We require innovative point-of-injury treatment and prolonged field care solutions," said Holcomb. "We work to overcome these challenges by leveraging cutting-edge research from government laboratories with our academic and industry partners." Guice concluded saying military medical

research must be flexible to help find the solutions for the ever-changing threats the warfighters face. Gatherings like MHSRS help foster the collaboration needed among the military services,

other government agencies and the private sector. "Threats are perpetual. We need to be vigilant and ready to meet them," said Guice. "Our research agenda will continue to prioritize to meet these threats. But we'll also need ... strategic partnerships [as] force multipliers. We can't do this alone, and we shouldn't."

## **"We are the foundation for readiness."**

- Dr. Richard Thomas; President, Uniformed Services University of the Health Sciences



# **Clinical, Virtual Pathways Likely the New Future of TBI Care**

By Ramin A. Khalili, USAMRMC Combat Casualty Care Research Program Knowledge Manager

Following a lengthy session on TBI at the 2016 Military Health System Research Symposium, Capt. Todd Jaszewski laid bare the Army's funding approach in clear, plain language.

"We're looking for potential," said Jaszewski, currently aligned with the U.S. Army Medical Research and Materiel Command's Combat Casualty Care Research Program, "but we also need to see a good amount of technological progression as well."

That difficult balancing act—the need to see both promise and results—was on full display during a session dedicated specifically to prehospital TBI care; one which featured potential emerging care options ranging from virtual reality devices to more aggressive observational techniques to the expanded use of ultrasound technology to spot pockets of cranial pressure in suspected TBI patients.

"We need to stay ahead of the curve when it comes to TBI care," said Tammy Crowder, PhD, Director of the CCCRP's Neurotrauma Portfolio and session moderator.

"We need to stay at the leading edge of innovation." That desire is shared by the DOD, which, after witnessing more than 347,000 cases

of TBI across all service branches since 2000, has placed finding a method to quickly identify possible brain injuries at the top of their medical wish list.

"Bottom line, we're looking for something to fill a gap," said Jaszewski, "but we have to be calculating as well."

Yet the growing desire for a solution to an equally

**"We need to stay ahead of the curve ... we need to stay at the leading edge of innovation."**

*- Tammy Crowder, PhD; Manager, CCCRP Neurotrauma Portfolio*

expanding problem also represents another balancing act. But while it is indeed impossible to rush the scientific process, there does exist a growing confidence within the military that a solution will be identified, developed, and deployed soon.

"That's what the U.S. military has always done," said Jaszewski. "We set goals and we accomplish them."



**“You can’t create solutions unless you know what the problem is first.”**

*- Lt. Col. Antoinette Shinn; Manager, CCCRP Forward Surgical-En Route Care Portfolio*



# Process, Patience the Key to Aiding Combat Injured

By Ramin A. Khalili, USAMRMC Combat  
Casualty Care Research Program  
Knowledge Manager

Standing before a crowd of more than 300 people on the first day of the 2016 Military Health System Research Symposium, Israeli Defense Forces Maj. Avi Benov was quick to blame one man for the current state of forward surgical care across the globe.

“It’s Chuck Norris’s fault,” said Benov, lightheartedly referring to the U.S. movie icon revered for his indestructible persona.

“Everybody wants to be Chuck Norris because Chuck Norris doesn’t take any pain medication.”

Such a candid assessment of the mindset of the current warfighter is key in developing the knowledge and the tools required to both stabilize and transport warfighters injured on the battlefield; a lynchpin effort in maintaining force strength and resilience in combat situations.

“The knowledge part is key,” said Lt. Col. Antoinette Shinn, the newly-installed manager of the Forward Surgical-En Route Care Portfolio for the U.S. Army Medical Research and Materiel Command. “You can’t create solutions unless you know what the problem is first.”

To that end, a round-up of the contemporary, military-wide research efforts in the forward surgical and en route care areas features a renewed attention to process; or, more specifically: how a warfighter is treated on the ground, in the air, and perhaps most importantly, how an injured warfighter is transported to safety in the first place.

As such, current investigations focus on the expanded use of pain medication on the battlefield, the pre-hospital use of blood products, and the improvement of in-transit stability for transportation options like MEDEVAC helicopters. While supporting research for these efforts is intriguing, study authors agree more time and information is required before conclusions are drawn.

“We have to find ways to improve and increase data collection in these environments,” said Lt. Col. Samuel Galvagno during his own presentation. “Otherwise we won’t know how to tackle the problem.”

With such strong and pointed direction – and, of course, an understanding that action-hero bravado doesn’t solve real-world problems– the FSERC Portfolio under Shinn’s management is constantly looking to review and re-focus its unique lines of effort in order to stay on the leading edge of innovation.

Said Shinn of those efforts, “We’re on the right track.”

Following an in-depth conversation on trauma at the 2016 Military Health System Research Symposium, Dr. John Holcomb was blunt in his assessment of modern research efforts.

“It’s an epidemic,” said Holcomb, Vice Chair of the Department of Surgery at the University of Texas Health Science Center. “In America, if one person gets Zika it’s a national emergency, but at the same time we’re not doing enough for the millions who show up at emergency rooms across the country with trauma injuries.”

As the number three overall killer in U.S. annually, trauma continues to be a top focus of MHSRS attendees. But while previous symposia primarily targeted research efforts in extending the storage life of blood and blood products, the 2016 MHSRS has instead focused largely on prehospital trauma care, especially as it applies to the U.S. civilian population.

“Ultimately, it’s about saving lives,” said Dr. Heather Pidcoke, also of the UT Health Science Center.

Pidcoke spoke at length during the 2015 MHSRS about the then-recent FDA approval of cold-stored apheresis platelets for the resuscitation of bleeding patients, an effort which has now stretched into independent programs both inside the DOD and in private entities like Mayo Clinic.

With regard to prehospital care, however, a slew of presentations from both inside and outside the U.S. showed that early use of tourniquets in civilian populations made a substantial difference in survivability rates across the board.

“The earlier they’re applied, the more helpful they are,” said Maj. Andrew Beckett following a presentation on his own research in the area.

Also notable is the U.S. military’s promotion of the “active bystander” concept, or more specifically, the encouragement of U.S. civilians to help one another in instances of traumatic injury by using basic combat know-how. The recently-launched “Stop the Bleed” program, a joint effort between the U.S. Army Military Research and Materiel Command and the National Security Council, has also focused on this type of resiliency, an effort which dovetails with the research community’s own shift towards the advantages of quick, complete prehospital care.

“It’s about the basics,” said Holcomb. “It’s about keeping blood in the body, where it belongs.”

**“It’s about the basics. It’s about keeping blood in the body, where it belongs.”**

*- Dr. John Holcomb; Vice Chair, Department of Surgery, University of Texas Health Science Center*

The background of the image is a photograph of the interior of a medical tent. The tent's structure is made of white fabric, and various medical supplies and equipment are visible, though somewhat dimly lit. A prominent feature is a large, dark blue diagonal overlay that cuts across the image from the top right towards the bottom left. The text is overlaid on this blue area.

# **Attention, Prevention the Key to Cutting U.S. Trauma Deaths**

By Ramin A. Khalili, USAMRMC Combat Casualty Care Research Program Knowledge Manager

Military Health System  
Research Symposium  
**MHSRS**  
**2016**





If a synopsis by definition is intended to be a brief summary of an event—a snapshot, a quick glimpse—then to provide a closing such as this one is almost derivative. The essence of the event having already been captured, a capstone can usually only offer needless redundancy. And yet here, when discussing the annual MHSRS, such a conclusion is in many ways a requirement.

Since the MHSRS exists in an almost constant state of evolution, no single snapshot can ever provide a full, comprehensive summary of the proceedings. Just as the current iteration is always dependent on the previous iteration, the next iteration is likewise dependent on the current one. Such fluidity then demands an explanation, a sense of awareness, a point of reference. With so much of the annual MHSRS workload so dependent on new developments and obstacles, it is critical to know exactly where we've been before we can determine where we go next. And even then, once we arrive at our destination, we're faced with challenges both new and old, all of them evolving just as we do, just as the people supporting the military medical research structure do on a daily basis.

So with that we offer this, the briefest of closings, the quickest of final viewpoints. Because just as we drop the curtain on the 2016 Military Health System Research Symposium, the next version is just beyond the horizon line, ready and waiting to feature new research, new findings, and turn over new earth; all of it for the sake and benefit of the men and women of the United States military.

And in the end, perhaps it is that singular piece of knowledge, that the future we seek so desperately to understand is only ever the end result of the sum of our everyday efforts, which will serve us best as we carry out our mission.

# Thank You!





