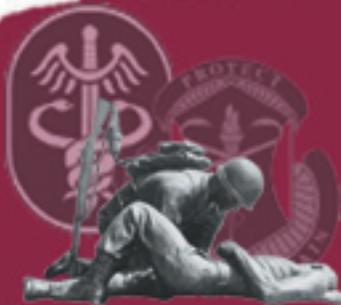


THE POINT

A newsletter for and about the people of the
U.S. Army Medical Research and Materiel Command



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Institute evaluating new Soldier fitness program

The U.S. Army Research Institute of Environmental Medicine, along with the U.S. Army Center for Health Promotion and Preventive Medicine and the Army Physical Fitness School, has initiated a two-phased study to investigate potential weight and muscle loss in Soldiers deployed to Afghanistan.

The formal study was prompted by Soldier observations and anecdotal evidence of weight/muscle loss, said Marilyn Sharp, a research health exercise scientist in the Military Performance Division at USARIEM.

In February, Sharp's team, as well as CHPPM and the Army Physical Fitness School, collected data on several hundred Soldiers who were set to deploy to Afghanistan. Upon their return, the Soldiers will be re-assessed to evaluate body composition changes. Some of the Soldiers will be trying out a new fitness program called Physical Readiness Training.

In Afghanistan, Soldiers are often on the move, carrying heavy loads on physically demanding terrain under high-altitude conditions, which can stress the heart and the lungs. Loss of muscle mass and weight could impair the warfighter's ability to carry out his mission.

"These Soldiers are expending a great deal of energy in a high-altitude environment," Sharp said.

PRT strengthens muscle groups that enable Soldiers to perform their duties more efficiently and with fewer injuries.

During the group's pre-deployment evaluation, USARIEM documented fitness levels and recorded the Soldiers' body mass. The Soldiers were assessed in five areas: aerobic capacity, muscle strength, upper and lower body power and body composition.

The Soldiers also filled out lifestyle questionnaires to document health-related issues



To test upper body anaerobic power prior to deployment to Afghanistan, a Soldier prepares to throw a medicine ball from a seated position. The test is part of a data collection effort performed by the U.S. Army Research Institute of Environmental Medicine, along with the U.S. Army Center for Health Promotion and Preventive Medicine and the Army Physical Fitness School.

and exercise habits. The questionnaire will track how habits change during deployment and how habits are affected by the new exercise training program.

Data collected from the five fitness tests and from the questionnaire will be used to create a database capturing each Soldier's overall physical condition. The Soldiers will go through the five fitness tests again upon their return.

Scientists expect that the Soldiers using the new exercise program will have fewer injuries, increased mobility and be better able to perform their jobs.

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Command names best NCO, Soldier



Santiago



Cerritos

In March 13 Soldiers representing the best of the U.S. Army Medical Research and Materiel Command competed in Maryland to be named the command's Noncommissioned Officer and Soldier of the Year.

After five days of competitions to test both physical and mental dexterity, Staff Sgt. Daniel Santiago of the Walter Reed Army Institute of Research and Spc. Bryan Cerritos of the U.S. Army Medical Research Institute of Infectious Diseases won their titles. Just one week later both were off to San Antonio to compete for the same titles in the U.S. Army Medical Command competition.

"These were some of the best Soldiers I've seen compete," said Sgt. 1st Class Michelle Robertson of USAMRIID, who has helped with the event for the past six years. She said she was also struck by the Soldiers' attitude toward one another.

"You could see that they made friends, and they really liked each other," she said. "They even ate dinner together."

Santiago agreed.

"We had a lot of fun while competing. I felt very comfortable with everybody," he said. "Hands down, it was the best group of Soldiers I have been around."

The competition commenced March 17 with an evening weigh in. The next day, the contestants completed a physical fitness test and then competed at Fort Detrick's recreation area on how well they completed common Soldiering tasks, like requesting a medical evacuation and evaluating a casualty.

That evening, they practiced at their hotel for the next day's written exam, but could only wonder about the "mystery task" they'd face. The event turned out to be an exercise

in interacting with the media, a new warrior task and battle drill because of the increased presence of embedded media in military operations. Contestants faced mock reporters, like Lois Lane, while answering questions in front of television cameras.

At 5:30 a.m. March 20, the crew boarded a bus headed for Fort Indiantown Gap, Pa., where they fired at the M-16 range in the prone position. For an extra 20 points, they also fired standing up.

After demonstrating their marksmanship, the crew embarked on a daytime land navigation, where they had to find four points, one by using GPS, which was a new task. Once darkness fell, they also completed a nighttime land navigation task, finding three points. They were home by 11 p.m. so they could review their notes for the next day's oral board.

During the board, the final event, Soldiers faced a panel peppering them with questions that could run the gamut of history to current events.

Once the competition ended and while the results were being tallied, the Soldiers took a tour of Arlington Cemetery, seeing Audie Murphy's gravesite and the Women in Military Service for America Memorial. They also met with some of the Tomb Guard sentinels for the Tomb of the Unknowns who guard the tomb 24 hours a day, 365 days a year and in any weather. The sentinels are all volunteers and, like the MRMC Soldier-competitors, are considered to be the best of the elite 3rd U.S. Infantry (The Old Guard), headquartered at Fort Myer, Va.

Winners were announced at a dinner banquet March 23.

See "Best," page 3

Center logs on for extra duty, many calls

When the Army Medical Department needed help fielding calls in its transition to support the Common Access Card cryptographic logon initiative, the U.S. Army Medical Information Technology Center offered its services.

The center was already handling the mapping of 70,000 CACs to individual users' e-mail accounts for the entire AMEDD, but additional assistance was needed to resolve users' problems and answer questions.

"We are very pleased to be able to offer this additional support to the AMEDD," said Maj. Dave Broyhill, chief of the Customer Service Division. "We're here to serve in any way that's needed."

The additional work kept the staff

hopping.

"For about two weeks, we were very busy handling the additional help tickets, and our wait times were unusually long for us, but I believe the surge is over," said Scott Holmes, manager of the USAMITC Enterprise Service Desk.

Ordinarily Holmes's area runs like a well-oiled machine, efficiently handling about 100 help desk tickets among four staff members daily and resolving most tickets within about 10 minutes.

"We want to retain good customer service stats, so we are in the process of hiring one or two additional personnel to handle any surges as the CCL deadline of June 30 nears," Holmes said.

"Best," continued

"I was very surprised. I did my best, and that's all I knew," said Cerritos, a research lab tech at USAMRIID. "I didn't even have any type of speech ready for the awards banquet. The graders and proctors did a good job of keeping the scores secret until the very end."

This was Santiago's second attempt at a win. He placed second in the 2001 competition.

"Five years later I was more experienced and prepared, and it showed in the competition," said the noncommissioned officer in charge of the Division of Neuroscience and Neuropsychiatry at WRAIR. "I was very happy when I was announced the winner. I knew I had done my best and I felt everybody in my chain of command was pulling for me."

Competitors

NCO of the Year

Sgt. James Barclay, U.S. Army Medical Research Institute of Chemical Defense
Staff Sgt. Ruth Felix, U.S. Army Medical Information Technology Center
Staff Sgt. Anthony Klagenberg, U.S. Army Institute of Surgical Research
Staff Sgt. Richard Paradis, U.S. Army Medical Materiel Center-Europe
Sgt. Dineen Peterson-Parker, U.S. Army Aeromedical Research Laboratory
Staff Sgt. Daniel Santiago, Walter Reed Army Institute of Research

Soldier of the Year

Spc. Bryan Cerritos, USAMRIID
Spc. Jessie Hart, USAARL
Spc. Diana McCleary, USAMRICD
Spc. Stephen Middleton, U.S. Army Medical Materiel Agency
Spc. Ayan Mohamed, WRAIR
Spc. Marlana Motley, USAMMC-E
Spc. Marcus Tillis, U.S. Army Research Institute of Environmental Medicine

Studies to give military answers on trauma

The military has long sought an answer for which IV fluid is the best to treat trauma on the battlefield. A collection of seven federal research agencies from the United States and Canada may help get that answer soon.



Col. John Holcomb, a trauma surgeon, is the sole military member participating in the steering committee for the Resuscitation Outcomes Consortium. (Courtesy photo)

The Resuscitation Outcomes Consortium is a three-year \$50 million federally funded research program to improve survival rates from serious accidents and heart attacks. Research will begin the moment emergency medical personnel arrive on scene and will continue in the emergency rooms of 10 U.S. and Canadian cities.

“It’s a novel idea because trauma and cardiac arrest are very separate things,” said Col. John Holcomb, an Army trauma surgeon and the only military member participating in the steering committee for the consortium. “What was recognized was that the pre-hospital groups that care for both groups of patients are exactly the same: You get on the ambulances and they come into the ER. If you want to study them, then all the systems are in place that you need to study them are there and can be utilized for both groups.”

The trauma track of the consortium has its roots in a workshop called PULSE, which stands for Post Resuscitative and Initial Utility of Life Saving Efforts and was organized by the National Institutes of Health’s National Heart, Lung and Blood Institute. A trauma workgroup, of which Holcomb was a member, recognized that a “centralized, federal ‘home’ for trauma research does not exist,” according to an article printed in *Shock*,

a medical journal.

The PULSE studies “laid out a roadmap” for what needed to be studied in terms of trauma, Holcomb said. “From a trauma point of view, that turns out to be the A, B, Cs—airway, breathing, circulation—which there is no data support for, which is kind of interesting,” he said. “There’s a lot of things that make sense, but medicine is replete with things that make sense that turn out not to be true. It’ll be interesting to see if this isn’t one of those times.”

The consortium’s trauma research is expensive but invaluable, especially considering that 40 percent of the 150,000 civilian patients who die from trauma do so before reaching the hospital. First to be studied will be the Cs, namely resuscitation fluids, which are given intravenously to help replace lost blood and keep blood flowing to vital organs in trauma cases. Three fluids will be given to trauma patients en route to the hospital: a standard resuscitation fluid called Lactated Ringers; high concentration saline, called Hypertonic Saline, or HS; and hypertonic saline dextran, which usually abbreviated HSD. The first is approved by the Food and Drug Administration, the last two have gone through a number of clinical trials but haven’t enrolled enough patients to gain approval.

“The data shows that the fluids are safe and they work,” Holcomb said. “We picked HS and HSD because there’s a large number of papers that say these fluids are safe in humans. We wanted to pick a fluid that is safe and yet still has real questions concerning efficacy.”

All fluids are not equal when it comes to their use in trauma. Lactated Ringers, created in the 1800s for treat-

See “Trauma” page 5

Research meeting sparks collaborations

Scientists and military health professionals from around the United States gathered in San Juan, Puerto Rico, May 1-4 to discuss the latest military health research innovations funded by the Department of Defense.

The Military Health Research Forum, last held in 2004, was the second such conference for the seven-year-old Peer Reviewed Medical Research Program. The program received \$50 million for fiscal year 2005 to continue its mission to “find and fund the best research to eradicate disease and to

support the warfighter,” said Col. Janet Harris, director of the Congressionally Directed Medical Research Program, which provides management oversight for the PRMRP. “Back in our offices, ‘find and fund’ has become a driving mantra for everything we do.”

The program aims to support innovative research, recognize untapped opportunities to create partnerships and guard the public trust, she added. Congress established the program within the Department of Defense

“There are very few programs that support research of military-relevant diseases such as malaria.”

**—Dr. Michael Riscoe
Portland, Ore.,
Veterans Affairs
Medical Center**

See “Meeting,” page 6

“Trauma,” continued

ing diarrhea, is most common and inexpensive, while HSD is costlier but providers can use fewer bags of it in comparison to Lactated Ringers to get good results. HSD is designed to replace blood loss more effectively while reducing inflammation. “If you put a liter of Lactated Ringers in somebody, only 200 ccs (cubic centimeters) of that actually stays in the bloodstream; 800 ccs leak out into the tissues,” said Col. Bob Vandre, director of the Army’s combat casualty care research program.

Further, Holcomb said, Lactated Ringers is probably not the best solution for treating trauma victims. “The ph is acidic compared to that normally found in the body, so if you were designing a fluid today to resuscitate trauma patients you wouldn’t design Lactated Ringers. But that’s what we use,” he said. “There are a lot of animal studies out there saying it’s probably not the best fluid, but translating

animal work in 10 to 20 pigs to thousands of trauma patients is extraordinarily difficult.”

That’s where the consortium comes in. During the three years, as many as 8,000 patients will participate in the fluid studies that will give healthcare providers answers on the best fluid for trauma victims. Each medical center in the 10 participating cities will undertake information campaigns to educate communities on the trials through a process called community consent.

“A trauma patient doesn’t know in advance that he’s going to be a trauma patient,” Vandre said. “You can’t get individual (informed) consent from them ... and most often you can’t get immediate consent of the next of kin, so you have to get consent of the community.”

Although the trials will take place in civilian hospitals, the results should directly translate to military medicine.

“While the injury mechanisms are obviously very differ-

ent, the physiology of military casualties and civilian casualties are much more similar after injury than they are different,” Holcomb said. “Because we’re part of the consortium, to be honest, we have an opportunity to guide the research selection process, to make sure we get dual use not only for the civilians but for the military.”

U.S. members of the consortium include the Department of Defense, the National Institutes of Health’s National Heart, Lung and Blood Institute, the NIH’s National Institute of Neurological Disorders and Stroke and the American Heart Association. Canadian members include the Canadian Institute of Health Research’s Institute of Circulatory and Respiratory Health, the Canadian Defense Research and Development and the Heart and Stroke Foundation of Canada.

Future studies include a valve designed to improve blood flow during CPR and studies to control hemorrhage.





Col. Janet Harris speaks to attendees at the Military Health Research Forum. (Photo by Gail Whitehead)

“Meeting,” continued

in 1999 to support military health related research. To date, the program has managed \$344.5 million in funding to support basic science to implementation of advanced

products and technology for active-duty military members, veterans, retirees and family members.

The program has funded about 200 projects, 80 of which are product oriented to maintain warfighter readiness and expedite the transition of research into field-able products for our Soldiers, Harris said. Products include a sleep watch monitor with a performance prediction model, an improved helmet liner that helps protect airborne Soldiers from traumatic brain injury, anti-malaria drugs, vaccines, and tests to monitor for biological agents, among others.

Malaria drug researcher Dr. Michael Riscoe of the Portland, Ore., Veterans Affairs Medical Center said he appreciate the support the program provides.

“It works. There are very few programs that support research of military-relevant diseases such as malaria,” he said. “We feel quite fortunate to have been able to combine our connection with the Department of Veterans Affairs with financial support by the Department of Defense to successfully complete our major objective: to design and discover novel anti-malarials that are safe, rapid acting and curative in treatment of malaria in mice.”

Every grant proposal undergoes a two-tier review process to, first, ensure proposed studies have scientific merit and, second, to make certain that studies are relevant to solving a problem the military is facing,

Harris said.

As part of the forum, researchers held interactive sessions during poster talks, product demos and technology shows to spur discussions and possible collaborations. Because both military members and scientists were invited to the forum, the conference, provided a chance to “find out what needs are out there and what you as investigators can provide and perform in meeting our military health requirements,” said Maj. Gen. Eric Schoomaker, commanding general of the U.S. Army Medical Research and Materiel Command, which is the executive agent for the Peer Reviewed Medical Research Program.

The conference allowed attendees to “cross fertilize ideas that are percolating among the academic and the industrial sectors as well as those in uniform to foster peer-reviewed, high-quality science to attend to the health needs of the U.S. military and their families,” the general said.

The Military Health Research Forum also showcased the work of investigators from research institutions, historically black colleges and universities, tribal colleges and universities and minority-serving institutions. An interactive session hosted at the University of Puerto Rico gave attendees a chance to see ongoing military-relevant research taking place there.

Focus areas of the conference were broken into topics that included combat casualty care, military operational medicine, infectious disease, lung, wellness and fitness and technology. Also highlighted at the conference was research funded by the Myeloproliferative Disorders Research Program.

“This conference is a tremendous opportunity to vet new ideas, to develop collaborations and new partnerships as we all work together to achieve the vision of this program, to support great Americans who are out defending this nation and their families who count upon the efforts that you are engaged in ensuring their health and well being,” Schoomaker said.

Technique speeds up detecting wound bacteria

With a grant from the Department of Defense, Dr. Sydney Finegold has taken his passion for research and applied it to a problem that affects civilians as well as injured service members: wound bacteria.

“The flora of wound infections is very complex,” he said. “At times there can be 12 or more organisms present, and most clinical laboratories are not proficient in isolating and identifying anaerobes, which often predominate.”

Using DNA detection methods though a technique called real-time polymerase chain reaction, the physician-researcher from the West Los Angeles Veterans Affairs Medical Center can drastically cut the time it takes for lab personnel to figure out just what bacteria they’re dealing with.

“The big advantage of real-time PCR is that we get quantitative information and accurate identification on the organisms in five hours or so, whereas the current procedure—culturing and identifying organisms by biochemical activity, etc.—can take one to several days and sometimes weeks, depending on the organism,” he said.

His technique is also useful in detecting flora that can’t easily be grown in culture because no one’s been able to determine just what the bacteria like in the way of nutrients and environmental conditions.

The earlier the lab staff has answers, the earlier the correct treatment can begin. Initial treatment is necessarily empiric.

“When the patient is quite ill, clinicians necessarily use a broad spectrum (antibiotic), hoping not to overlook anything,” Finegold said. “The resulting overuse of antibiotics definitely contributes to antibiotic resistance.”

According to the Centers for Disease Control and Prevention Web site, more than 70 percent of the bacteria that cause hospital-acquired infections are resistant to at least one of the drugs most commonly used to treat them.

So far Finegold and his colleagues have used real-time PCR to detect 20 of the most

common bacteria found in wounds, including one, *Finegoldia magna*, which had been named after him in the past. A World War II and Korean War veteran who confesses he’s had an “ongoing love affair with anaerobes for several decades,” Finegold has two additional eponymous bacteria—*Alistipes finegoldia* and *Bacteroides finegoldii*—that will probably also be found in wounds but aren’t part of those detectable by PCR. Yet.

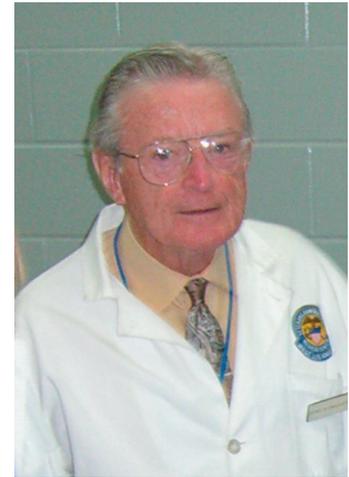
“We will definitely add to the list,” he said. “We are currently basing our selection of organisms to detect (through real-time PCR) on the current literature on surgical infections, but we expect to find many more organisms with the molecular techniques we will use.”

Finegold’s research endeavors were funded, in part, by a grant from the DoD’s Peer Reviewed Medical Research Program.

Though Finegold’s research funding comes from the Defense Department, his results will help both military and civilian patients.

“Most of us in infectious diseases are looking for ways to speed up microbiologic results so that we can treat more intelligently from the beginning,” he said. “We see surgical wound infections commonly, and when the DoD put out a request for proposals it was an opportunity to get good funding so that we could make some headway in this important area.”

Finegold’s study is a four-year project, and his team is awaiting approvals to test the real-time PCR detection method on actual patients. As his work progresses, he hopes to publish early results that may be put to use in both civilian and military hospitals, if and when it’s feasible.



Finogold

Exercise tests state, military response

Air Force C-130 pilot Lt. Col. Bryant Qualls offloaded precious cargo May 20 at a joint military and civilian emergency response exercise at Baltimore-Washington International Thurgood Marshall Airport.

The pilot from Warfield Air National Guard Base in Baltimore flew 20 Civil Air Patrol cadets from the Baltimore area who stood in as wounded Soldiers being evacuated from Landstuhl Army Medical Center in Germany.

The Airport, Academia, Industry, Military and State Exercise set out to test how local and state entities would work with the Defense Department in response to a patient surge if civilian hospitals were called upon to provide beds for military casualties in civilian hospitals. In addition to actual patients, 140 paper patients were processed as well. Three tabletop exercises preceded the event at the Maryland airport.



Civilian and military medical providers prepare to hand off a patient to an ambulance team during an exercise at the Baltimore-Washington International Thurgood Marshall Airport May 20. The Telemedicine and Advanced Technology Research Center participated in the event that gave state, civilian and military medical teams an opportunity to see their roles if they were called upon by Maryland to respond to a natural disaster.

“We’re all trying to build a bond, a common language, to help our citizens ... so that we could respond to a catastrophic disaster,” said Lt. Col. Phil Wasylina of Walter Reed Army Medical Center. Wasylina serves as Walter Reed Army Medical Center National Disaster Medical System Federal Coordinating Center area coordinator for the Federal Emergency Management Agency’s Region III (Maryland) and represents the Baltimore Federal Coordinating Center.

The Telemedicine and Advanced Technology Research Center, based at Fort Detrick, provided an Alaska shelter tent, medical equipment and communications from its Operational Assessments System Integration Site, also called OASIS. The center lent its assets to support medical resuscitation and stabilization efforts and provide communications links with local and state responders.

“This helps us figure out where we can help the civilian system until they can take over,” said Tony Story of the Telemedicine and Advanced Technology Research Center.

Participating in a compassionate assembly line, patients were unloaded from the C-130, triaged, treated and taken to local hospitals for further treatment. Soldiers from Walter Reed Army Medical Center’s National Disaster Medical System Federal Coordinating Center, Emergency Operational Service and the 2290th U.S. Army Hospital provided medical care and administrative help in the triage and OASIS shelter areas. Soldiers from the 6th Medical Logistics Management Center from Detrick helped haul and set up the OASIS structure and equipment.

Set up went quickly, Story said. The medical shelter was up in an

See “Exercise,” page 9

Researchers making strides with robotic telesurgery

However science fiction-esque it may have sounded decades ago, using robots to perform delicate surgeries today is decidedly science fact. Looking toward future decades, researchers are now trying to find ways to take robotic surgery to the battlefield.

“We’re not talking about something that’s going to be immediately available, but if we don’t do this research now, we will not have the option of having surgical intervention remotely or robotically (on the battlefield). That’s the underpinning motivation for our getting into it,” said Dr. Gerry Moses of the Telemedicine and Advanced Technology Research Center.

A surgeon using a robotic surgery system in a hospital typically

sits across the room from a patient. Looking through a three-dimensional monitor, the surgeon uses a joystick to control the robot, which is armed with surgical tools and a camera. A subset of laparoscopic surgery, robotic surgery is great for minimally invasive procedures, said Col. Noah Schenkman, chief of urology service at the Walter Reed Army Medical Center. In the past three years, he has performed almost 50 operations using a robotic surgery system to repair blockages between the kidney and the ureter or to remove the prostate.

“Lap instruments are very current, but sometimes they’re not very ergonomic. They don’t allow you to make the complex, difficult maneuvers that

“We are trying to identify how to overcome those technical challenges associated with an enhanced robotic surgical system.”

**—Dr. Gerry Moses
Telemedicine and
Advanced Technology
Research Center**

See “Robotics,” page 10

“Exercise,” continued

hour. The communications links—video, Internet and telephone—took two hours to set up, though Larry Markin of TATRC said he can usually put them up in an hour.

The exercise pointed out areas where the Defense Department’s advances in medical recordkeeping could assist civilian medical providers, like with electronic medical records.

“They’re doing stubby pencil and paper medical records here,” Story said. In fact, the breeze from the airfield sent more than one paper record aloft during the exercise.

“We’ve got electronic medical records that could be incorporated into one of these state-run exercises,” Story said. “We’ve also got IM/IT (information management/information technology) equipment that

can assist in keeping track of patients and the care we’re providing and moving that information from point A to point B wirelessly.”

The exercise also showed gaps between civilian and military communications.

This exercise is about being able to communicate and optimize our resources within the military and the civilian side. To do that you’ve got to have a communications system that allows those linkages. In this exercise we don’t have that,” said Lt. Col. Hon Pak of TATRC. “I think one of the roles we can play is to bring about advance technology that can improve those communications and management of patients.”

The exercise also gave the OASIS team a chance to show civilian first responders the

wares it has tested. The Life Support for Trauma and Transport, a patient litter with built-in monitors that’s currently deployed in Iraq and Afghanistan, was part of the medical tent’s equipment.

“The folks from fire and rescue like the LSTAT,” Story said. “It might be something that they can incorporate into some of their disaster planning.”

Story said he hopes the event was just the beginning for TATRC.

“We want to do more,” Story said. “I’d like to be a part of this again but not just with the tent. I want to bring something meaningful. We want to bring in advanced technologies to include telemedicine, and I think that’s where we can fit in.”

“Robotics,” continued

you can make with just your hands,” he said. “The robot allows you to regain some of those complex movements because it has an articulating instrument that allows you to make those movements, (like) sewing, during reconstructive operations.”

Schenkman said robotic surgery offers a surgeon several benefits. Because it’s a machine, it eliminates the normal tremor associated with human hands performing fine motor movements. The system’s 3-D view also gives the operator increased vision and magnification, both of which are important for doing complex, intricate surgery. And because the surgery is done from a sitting position, it doesn’t wear out the surgeon.

“It’s a little easier to do live maneuvers if you’re in a comfortable sitting position,” he said.

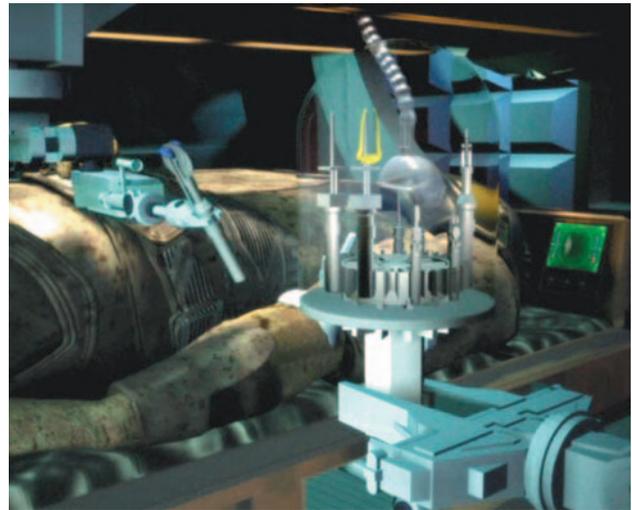
Because of the benefits robotic surgery offers, researchers at the Telemedicine and Advanced Technology Research Center want to bring it to the battlefield and have imagined how it would play out.

“We’re talking years out now,” Moses said. In a futuristic Defense Advanced Research Projects Agency, or DARPA, video, a scenario unfolds where a Soldier radios that a man’s down. Within seconds an unmanned evacuation vehicle pulls the wounded Soldier onto a stretcher and transports him to a surgical suite inside the vehicle. The Soldier’s body is scanned for injury and a diagnosis is made. Surgery commences and is completed, then an unmanned aerial vehicle appears and evacuates the Soldier.

According to the DARPA Web site, that system, called the Trauma Pod, will move forward incrementally. One of its first steps is replacing scrub nurses in the operating room. At a conference in January, Moses told attendees just how close that vision is to becoming a reality.

Robotic telesurgeries from long distances are making steady progress, Moses said, but are in a “very experimental time period.” In 2001, though he was physically in New York Dr. Jacques Marescaux removed a gallbladder from a 68-year-old woman in Strasbourg, France, marking the first-ever transatlantic telesurgery.

“It did demonstrate the possibility of remote



This conceptual image of the Trauma Pod for robotic telesurgery shows surgical tools poised for an operation. (Photo courtesy SRI)

intervention surgery,” Moses said, adding that many safeguards were put in place for that procedure, including a back-up surgical team waiting to intervene and a dedicated transatlantic line to ensure continuous signal connection.

Though the accuracy and efficiency of robotic controls have improved tremendously, several technology hurdles need to be cleared before robotic telesurgeries become a mainstay in medicine, Moses said. The issues of latency—the delay in the transmission of what happens at one end and what happens at the other end—and jitter—the interrupted transmission of the electronic signal—can make the difference between a successful and disastrous operation.

“This is where we at TATRC have been focusing our investment in research,” Moses said. “We are trying to identify how to overcome those technical challenges associated with an enhanced robotic surgical system.”

For battlefield surgery in the future, Schenkman can foresee telecollaboration, where a remote surgeon can assist a deployed surgeon who doesn’t have expertise in a particular procedure.

“It’s not going to be the DARPA video with the robot that does the surgery by itself,” he said. “To actually have a surgeon from far away do this is not going to work because someone has to put the instruments into the patient. You’re going to have to have some sort of surgical expertise in theater, where the patient is.”

People in the News

Soldiers earn German badge

Forty Fort Rucker, Ala., Soldiers began; 14 successfully earned the German Armed Forces Proficiency Badge. In a ceremony held on April 24, Lt. Col. Werner Hellinger, German liaison officer, and Sgt. Maj. Michael Seidel, German sergeant major, presented the Soldiers with their badges.

“Generals and colonels walk around with pride as they wear their GAFPB; you Soldiers here today can be proud to have earned this badge, too,” Lt. Col. Hellinger said.

“A lot of these Soldiers put extra time and effort into this event,” said Staff Sgt. Byron Pieper of the U. S. Army Aeromedical Research Laboratory, who helped administer the tests. “Some began preparing for it two months out.”

Introduced into the three services in 1972, the GAFPB is awarded based on military performance, sports performance, job performance and the overall aptitude of the servicemember. The GAFPB is a qualification that all Soldiers in the German Army must obtain. It is comparable to the physical fitness test that U.S. Soldiers are required to take. Competitors can qualify for one of three badges: gold, silver or bronze. The grade of the badge awarded depends on the Soldier’s results in the road march and marksmanship portion of the event.

“You cannot rely on your athletic abilities alone to help you complete this event,” Pieper said. “You have to meet the standards and prepare to compete.”

For the track and field events, the Soldiers are tested on their endurance and stamina with the long jump or high jump and two running events. They must also throw a shot put. While swimming, the participants may use any stroke or style, but may not use floats, buoys or any other devices. They must swim a total distance of 200 meters. A 9 mm pistol is used during the marksmanship portion



Stetz and Pieper

of the event. Five rounds are issued to each individual standing 25 meters from three silhouette targets. Three hits in the targets will put a competitor in the bronze category, four equals silver and five means gold status heading into the final event: the road march.

“A Soldier’s status after the marksmanship qualification determines the distance that they have to road march and ultimately the badge that they will earn if they complete the march in the time allotted,” Pieper said.

Hopefuls carry a 22-pound rucksack for distances of up to 18 miles as they complete the qualification process.

Fort Rucker is the second installation where Pieper has been actively involved in administering the GAFPB. Previously, he conducted GAFPB testing at Aberdeen Proving Grounds, Md. He has earned the gold badge twice.

Maj. Melba Stetz, officer-in-charge of GAFPB testing, was also a participant and earned a gold badge. Col. James McGhee, commander, USAARL, presented Seidel with a framed certificate in appreciation for his contributions in making the German Armed Forces Proficiency Badge event on Fort Rucker possible.

“This event opens the door for teamwork and is about helping each other keep high standards,” McGhee said.

— *By Lori Yerdon, Fort Rucker*

People in the News



Cool arrival

The U.S. Army Medical Information Technology Center welcomed long-awaited new arrivals this spring: two 30-ton HVAC units. The air conditioning units will ensure a cooler temperature in the organization's rapidly expanding Data Center, which currently occupies more than 5,000 square feet and houses more than 450 servers. Additionally, the Data Center serves as the host site for the Western Messaging Center, which includes all Army Medical Department users located west of the Mississippi River.

Daughter wins science award

Emily Gupta, daughter of Walter Reed Army Institute of Research's Col. Raj Gupta, won MedImmune Inc.'s Advancing Science for Better Health award at the Frederick County, Md., science fair in March. The award recognizes the scientific work of a high school junior or senior in the county.

Emily's project, "Therapeutic Strategies Using in Silico and in Vitro Studies to Characterize Inhibition of Staphylococcal Enterotoxin B Interactions with Host Cells," earned her a trophy and a certificate, as well as a six-week paid internship at MedImmune, a pharmaceutical company. Emily has participated in the Department of the Army's Science and Engineering Apprentice Program as an intern under the mentorship of Dr. Marti Jett in the Molecular Pathology Department of the Walter Reed Army Institute of Research.

Best presentation

Capt. Travis Hedman, a physical therapist, of the Rehabilitation Study Division in the Burn Center at the U.S. Army Institute of Surgical Research received the award for the best presentation at the 2006 American Burn Association annual meeting, held April 4-7 in Las Vegas. His topic was "Leg Net Devices Designed to Protect Lower Extremity Skin Grafts and Donor Sites and Prevention of Decubitus Ulcers."

Medical contributions recognized

Lt. Col. Kyle Webster, retired, received the Order of Military Medical Merit from Maj. Gen. Eric Shoomaker, commander of the U.S. Army Medical Research and Materiel Command April 24 at the Walter Reed Army Institute of Research.



Webster



Command change

Lt. Col. Matthew Schofield took command of the U.S. Army Center for Environmental Health Research from Lt. Col. Roger Martin in a ceremony held May 25 at Fort Detrick. The center houses an interdisciplinary team of scientists and technicians dedicated to improving risk assessment methods and developing biomonitoring technologies for military environmental health hazards.



Convertino

Award winner

Dr. Victor A. Convertino, a senior research physiologist for the U.S. Army Institute of Surgical Research, is a 2006 Citation Award winner of the American College of Sports Medicine in recognition

of his distinguished contributions to the research, teaching and outreach mission of the college. The award is granted to an individual or group who has made significant and important contributions to sports medicine or the exercise sciences.

Convertino has served ACSM on many committees, the editorial board of *Medicine and Science in Sports and Exercise*, the board of trustees and as vice president. He has been recognized with both of the college's New Investigator and Visiting Scholar Awards. Convertino was personally responsible for the establishment of the ACSM Foundation NASA Space Physiology Graduate Student Research Fellowship that has generated more than \$120,000 of funding since 1992 in support of research conducted by 35 ACSM graduate student members.

Women leaders

Drs. Marti Jett and Debra Yourick of the Walter Reed Army Institute of Research were selected March 15 as Department of Defense Science, Technology, Engineering and Mathematics Role Models. During a Women's History Month observance at Arlington National Cemetery March 21, they represented WRAIR, along with other female role models in the Defense Department. About 300 middle and high school students participated in the observance, permitting Jett and Yourick to further their mission as role models. They will also be featured in a 2006 Equal Opportunity publication highlighting military and civilian female role models working in the fields of science, technology, engineering and mathematics.

"The WRAIR and I are indeed aware and proud of their accomplishments and their leadership," said Col. Ken Bertram, commander of WRAIR.

New project manager

Col. Jeffrey Gere became the project manager for the Medical Research Information System Technology Program Management Office April 3.

People in the News

Weightlifter hoists second

Cliff Manis of the U.S. Army Medical Information Technology Center competed against weightlifters from around the world in the USA Powerlifting Master Nationals competition held in the Killeen Convention Center, Texas, May 5–7.



Manis

Manis took second place in his age and weight categories, ages 65–69 under 220 pounds, respectively, for benchpressing 224 pounds, squatlifting 308 pounds and deadlifting 386 pounds. More than 200 competitors lifted three times per event for a personal best then all three scores were totaled. Manis' total was 918 pounds.

Manis retired from the Army in 1979 as a master sergeant. He qualified to attend this weightlifting championship by winning first place in the Military National Powerlifting Championship in his age and weight categories last March in Killeen, Texas. That win pitted Manis against military and retired military powerlifters. He has won that event for the last three years.

Manis is a former heart patient who only discovered weightlifting about four years ago. He works at Fort Sam Houston, Texas, as the Domain Name Service Administrator for all of the Army Medical Command.

Research grant

The U.S. Army Research Institute of Environmental Medicine's "Nutrient Delivery System" received a 18-month grant of \$50,000 March 29 from the Fort Detrick, Md., Technology Transfer Initiative board. Matt Kressy, president of Designturn, received the grant and has negotiated a worldwide exclusive license for the technology through the U.S. Army Medical Research and Materiel Com-

mand's licensing office, headed by Dr. Paul Mele. Congress provides funding for the grant through the Maryland Technology Development Corporation. Funding through the Fort Detrick Technology Transfer Initiative is earmarked for technologies that meet the U.S. Army Medical Research and Materiel Command's tech transfer needs within the Army or that show exceptional commercial promise. This grant is the first of its kind to support development of a USARIEM invention.

**Lunchtime visitor**

Gen. Benjamin Griffin, above, commanding general of the U.S. Army Materiel Command shakes hands with U.S. Army Research Institute of Environmental Medicine's Sgt. LaVincent Harris at the military dining facility during an early March visit to the Natick Soldier Center. (Photo by Sarah Underhill, Natick Soldier Systems Center)

People in the News

Big Talker visits institute

The U.S. Army Medical Research Institute of Chemical Defense's monthly Officer Professional Development seminar for January featured Philadelphia radio personality Dom Giordano. Giordano is host of *The Big Talker* on WPHT, 1210 AM.

A former elementary and high school teacher who began his broadcasting career more than 15 years ago, Giordano is a frequent guest commentator on MSNBC, the Fox News Channel, CNN's *Talkback Live*, Court TV, Comcast Cable's *It's Your Call*, and WHY-TV 12 News.

To MRICD, he brought his advice for raising "positive, well-adjusted kids," along with a message of thanks and appreciation from his listeners to the Soldiers at the institute. Giordano said that he had more than 150 emails from listeners conveying their support for our troops when he announced on his show that he would be speaking at a military installation.

In a casual, informal style, Giordano talked about some of the difficulties confronting parents today, provided some pointers for successful parenting and took questions from the audience. The biggest positive influence on children, he said, was the family dinner table. Gathering together for dinner provides an avenue to stay in touch with one's children, to interact, and to discuss the day's events, all of which can be "tremendously beneficial," Giordano said. Several audience members agreed and said that their family dinners fostered communication that continues today even though their children are grown and no longer at home.

Giordano also suggested taking the time to create family memories and rituals, providing as an example his own family vacation tradition of a 90-hole miniature golf tournament. Telling stories to one's children and having them tell stories is, according to Giordano,

particularly helpful in giving children the ability to speak comfortably in public. Reading, along with a cultural literacy to understand what is read, will also prepare a child to do well in life.

After his seminar, Giordano took a few moments to interview two Soldiers, Maj. Cindy Landgren and Sgt. 1st Class Jeffrey Dawson, for broadcast later on his radio show. Giordano asked the Soldiers what they did at the institute and whether they felt support from the public for their service to our country.



"Big Talker" Giordano

**Bridge visit**

Arlan Arabe, above standing, operations manager of the U.S. Army Medical Information Technology Center Video Network Center, shows Lt. Gen. Kevin Kiley the way the videoconferencing bridge works with help from staff member Kirk Carroll, seated, during the general's April 18 visit. Afterward, Kiley sat at the controls and took a moment to good-naturedly heckle some of his staff who were meeting via videoconference. (Photo by Martha Louise Reyna)

People in the News

**FAST team mission continues**

Lt. Col. Steve Dalal, far right, of the U.S. Army Medical Research and Materiel Command continues the mission of working with the Army Materiel Command's Field Assistance in Science and Technology team to find out what medical items are needed in Iraq. Reports indicate that he's working long hours and staying busy talking with everyone he can about medical products and equipment. Dalal is scheduled to return to the command's Animal Care and Use Review Office this month.



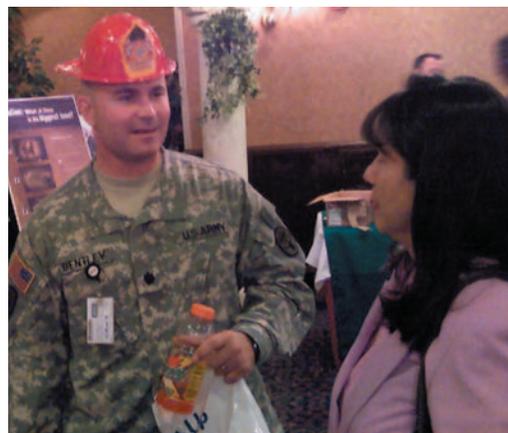
Cardwell

New deputy

Archie Cardwell is now the deputy associate director for Small and Disadvantaged Business Utilization for the U.S. Army Medical Research and Materiel Command. He will assist the office in increasing contract awards and other opportunities to small businesses and historically black colleges and universities and minority institutions. A native of Winston-Salem, N.C., he spent 33 years in the Army, both on active duty and in the Reserves. A 1983 graduate of Wright State University in Dayton, Ohio, Cardwell is Level III certified in contracting and is a member of the National Contract Management Association. He has 22 years of grant and contract experience.

Novelist researcher

Dr. Mark Kortpeter, formerly with the U.S. Army Medical Research Institute of Infectious Diseases, has penned his first novel, a medical thriller, "Biohazard 9-1-1." He is donating royalties from the novel to an organization that provides low-cost housing for injured military personnel and their families. The book is available on Amazon.com.

**Center hosts safety day**

Lt. Col. Joe Bentley, above, gets in the spirit of fire safety May 23 with Janet Aquino during the U.S. Army Medical Information Technology Center Safety Day event.

Recent motorcycle fatalities of several servicemembers prompted USAMITC to develop and sponsor Safety Day. The day-long program included a motorcycle safety presentation from a Texas State Trooper, a "drunk goggle" demonstration as part of the alcohol impairment presentation, recreational safety geared for the summertime, fire safety and more. Time was also devoted to reviewing accident reporting and safety requirements, as well as composite risk management.

People in the News

**Football fun**

U.S. Army Medical Information Technology Center employees enjoyed flag football March 15 during the first annual USAMITC Bowl. With teams named Trojan Horse and Malicious Code, no one recalls who won, just that everyone had a good time. (Photo by Martha Louise Reyna)

Research psychologists meet

Maj. Melba Stetz and Col. James McGhee of the U.S. Army Aeromedical Research Lab hosted the bi-annual U.S. Army Research Psychologists Meeting March 9-10 at Fort Rucker, Ala. Research psychology is a highly specialized group of doctorate-level officers, about 30 in all, who study warfighters and suggest new psychologically based ways to improve their health and performance.

The meeting provided an opportunity to network, discuss career development issues and deliberate on warfighter-based studies and needs that were ongoing across the Army in light of military operations.

Among the main speakers were Col. Lisa Weatherington, Medical Service Corps deputy; Col. Paul Bartone, research psychology consultant; Lt. Col. John Spain, U.S. Army Personnel Command's assignment officer for research psychologists; and Dr. Brenda Wiederhold, executive director for the Virtual Reality Medical Center in San Diego, Calif. Wiederhold's company consults with the U.S. Army Medical Research and Materiel Command's

Telemedicine and Advanced Technology Research Center. She spoke about new ways being used to help warfighters by using virtual reality.

This summer, Stetz, a research psychologist, will begin a Virtual Reality-Stress Inoculation Training program at Fort Rucker, and U.S. Army School of Aviation Medicine's flight medic students will test this stress-hardening approach.

Manager earns certification

Scott Holmes, manager of the U.S. Army Medical Information Technology Center's Enterprise Service Desk, earned his "Certified Instructor" classification from STI Knowledge in April. The certification, which teaches the industry's best practices in help and service desks and call center operations, has allowed Holmes to contribute to the methodologies used in measuring USAMITC's customer service, as well as the Integrated Help Desk Pilot, currently underway at Darnall Army Medical Center, Fort Hood, Texas.

People in the News



Conference highlights readiness

Maj. Mark Dole, above, takes notes while Jack Rosarius speaks at the U.S. Army Medical Materiel Agency's readiness conference held at Fort Detrick April 26-27. The conference's goal was to improve coordination and support to deploying units.

About 100 people participated in the conference, which was attended by representatives from medical units around the globe who hoped to glean information on the medical logistics process.

With a theme of "Vigilant, Persistent: MED-LOG in the Long War Posture," the conference's highlights included speakers, product displays and breakout sessions to allow focused discussions on logistics topics. The theme, organizers said, reflects that long-time policies and procedures have been pushed to the limit because of ongoing conflicts, so hard decisions need to be made to balance Army priorities and the most effective use of available resources.

Attendees received overviews of many USAMMA processes and programs, including a flow chart on how the agency provides support to units and how it fields materiel. Among other topics, the Test Measurement and Diagnostic Equipment and the Theater Enterprise-Wide Logistics System were briefed.

This is the second readiness conference

USAMMA has hosted. Organizers hope to make it an annual event. (Photo by Anita Thompson)

Awards ceremony

Several staff from Headquarters, U.S. Army Medical Research and Materiel Command, were recognized at an awards ceremony June 6.

"We have such good people and we have such good things going on," said Maj. Gen. Eric Schoomaker, commanding general.

Kenneth Whittaker, Deputy Chief of Staff for Resource Management, received the Superior Civilian Service Award for his work on the command's Base Realignment and Closure initiatives.

Linda Ebersole, Deputy Chief of Staff for Resource Management, received the Achievement Medal for Civilian Service for her work on BRAC for the command.

Spc. Sagrario Jeffers received the Army Commendation Medal for working as an administrative assistant in the Headquarters Command Section.

Sgt. 1st Class Juan Ortiz received the Meritorious Service Medal for serving as the operations noncommissioned officer for the Deputy Chief of Staff of Operations.

Command Sgt. Maj. Althea Dixon received the Legion of Merit for serving as the command sergeant major for the Southeast Regional Medical Command and Eisenhower Army Medical Center and as senior enlisted adviser to the commanding general.

Lt. Col. Carla Price received the Meritorious Service Medal for serving as Secretary to the General Staff.



Jeffers



Ortiz

People in the News



'Loggies' have individual motivations to run

Glenn Gincley, above left, Cyndi Lake, Cindy Morris and Maj. Andrew Centineo from the U.S. Army Medical Materiel Agency have made a hobby of running marathons, including the Marine Corps Marathon last fall.

Centineo, Morris, Lake, Sgt. 1st Class Emma Goins and Gincley all had a common goal, to run in the Marine Corps Marathon in October 2005 in Arlington, Va., but they had different motivations for achieving that goal.

For them running the marathon wasn't about time. "It isn't always about what place you come in or how fast you run the race. Sometimes it is more about the journey you took to get to, or through, the race," Centineo said.

For Centineo the motivation was Soldiers who have served or are serving in the war.

"The runners are doing it in honor of Soldiers who have died or were wounded," said Centineo. "I also saw Marines who ran for a fellow Soldier. That was a big inspiration for me."

Morris, who began running as a sprinter in high school, is a member of a group called Team in Training. TNT, as it is known, is a nationwide

group organized by the Leukemia and Lymphoma Society. Morris runs to help the society.

"Leukemia is the number one killer of our children in the U.S. so to be able to raise money for research to find a cure is truly wonderful. Plus, it is just an awesome group of folks," Morris said.

The members of TNT run in many marathons in addition to the Marine Corps Marathon. Many members mentor other runners. Lake is also a member of TNT. After the training for the marathon began, she became a mentor for Morris.

Most of the runners broke from their regular running routines and began training in May 2005.

Goins finished the marathon in five hours and 25 minutes. She began running in high school as well and kept it up when she joined the Army in 1987. Goins has plans to run in the Disney Marathon in 2007 along with Morris.

Gincley has plans to run in marathons in Baltimore, Philadelphia and New York City.

Lake continues to run regularly and finished an "ultra" marathon, 31 miles, called the Hat Run in Harford County, Md. It was "great running weather" Centineo said. "The environment has a big impact on the running," he said.

Lake finished the marathon in four hours and 53 minutes. Centineo was a minute behind her. Morris crossed the finish line in five hours and 25 minutes and Gincley finished 11 minutes later.

"I remember thinking 'I can't let Cyndi pass me,'" Centineo said. "As soon as I said that, there she was."

— *Mary Greer, Fort Detrick Public Affairs*

News to use



Course offered in August

The Army Medical Research Institute of Chemical Defense will offer the Hospital Management of Chemical, Biological, Radiological/Nuclear and Explosive Incidents Course Aug. 14-18 at Aberdeen Proving Ground, Md. Although developed to provide civilian healthcare professionals with state-of-the-art instruction in planning for and managing multi-casualty incidents resulting from CBRNE terrorist attacks, the course is open to military attendees.

The HM-CBRNE course features classroom presentations and interactive discussion on chemical, biological and radiological agent effects and patient management, multi-casualty triage, personal protective equipment, decontamination, blast injuries and hazard detection. Additional topics include epidemiology, the National Incident Management System and National Response Plan, and hospital emergency incident command and management. Instruction is also provided in the form of hypothetical scenario planning sessions and class interactions. The course culminates in a multi-hospital tabletop exercise simulating community response to a major non-conventional event, challenging students' ability to apply hospital incident management and other learned concepts. The tabletop requires professionals to manage limited hospital resources to meet the safety, patient care and other operational challenges of the hypothetical disaster.

The HM-CBRNE Course is hosted by USAMRICD's Chemical Casualty Care Division and is a joint venture of USAMRICD, the Army Medical Research Institute of Infectious Diseases at

Fort Detrick, Md., and the Armed Forces Radiobiology Research Institute, in Bethesda, Md. The institute has presented the course five times since December 2004, graduating 375 military and civilian students. Individuals interested in registering for the August course are directed to http://ccc.apgea.army.mil/courses/in_house/cbrne.htm. More information about the course is available from the Chemical Casualty Care Division, USAMRICD, at DSN 584-2230/3393, CML (410) 436-2230/3393, by e-mailing ccc@apg.amedd.army.mil, or by writing to Commander, USAMRICD, Attn: MCMR-CDM (Chemical Casualty Care Division), 3100 Ricketts Point Road, Aberdeen Proving Ground, MD 21010-5400. —*Cindy Kronman, USAMRICD*

MeRITS site goes live

The Medical Research Information Technology System Program Management Office now has a Web site to provide customers with pertinent information relevant to projects, as well as the MeRITS program in general. The site is a work in progress, and additional updates and documents will be added as they become available.

Visitors to the site will be able to access the:

- ◆ Electronic Document Management System Project
- ◆ Laboratory Information Management System Project
- ◆ Clinical Data Process System Project Project
- ◆ Adverse Event Reporting System Project
- ◆ MeRITS PMO Training Initiatives
- ◆ MeRITS PMO Publications

The Web site is www.merits.army.mil or <http://merits.amedd.army.mil>. Send comments and suggestions to the MeRITS PMO by clicking on <http://www.merits.army.mil/contact.html>.

Clearance regulation signed

USAMRMC Regulation 360-1, Clearance of Professional Manuscripts and Presentations, dated June 1, 2006, supersedes USAMRMC Command Policy 2002-33, dated June 28, 2002.