

THE POINT

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

*Inside this
issue . . .*

News

**Chitosan bandage
approved—1**

**Enzymes key in
chem**

protection—2

**SERPACWA
approved—3**

**Shigella vaccine
trials—5**

**Field dental
equipment
improves—6**

**New acquisition
software in
place—7**

**Diagnosis through
DNA—8**

**PEOPLE IN THE
NEWS—8**

Chitosan bandage gains FDA approval

Since Operation Restore Hope in Somalia ended in 1993, Army researchers have been taking strides toward making uncontrolled battlefield hemorrhage a distant, horrible memory—with good reason.

On modern battlefields, more than 90 percent of combat deaths occur before evacuation, and a little more than half of those are caused by uncontrolled hemorrhage, said Dr. Anthony Pusateri, who's managed the Hemostasis Research Program since 1999 at the U.S. Army Institute of Surgical Research in San Antonio, Texas.

"We need to keep casualties alive longer so we have more time to evacuate them for surgical treatment. When we can get them to surgeons, they almost always survive," he said.

In studies performed at the institute in 2002, a chitosan dressing derived from shrimp shells effectively staunched a wound that in the first 30 seconds put out more than 300 milliliters of blood.

Created by researchers at the Oregon Medical Laser Center using a research grant from the U.S. Army Medical Research and Materiel Command, the 4-inch by 4-inch chitosan dressing is well suited for the battlefield and a vast improvement over gauze and pressure bandages currently used to stop extreme bleeding, said Col. Bob Vandre, Director of Combat Casualty Care research for the U.S. Army Medical Research and Materiel Command. The dressing's ability to withstand blunt force as well as extreme field conditions, including inclement weather, temperature and rugged terrain make it "soldier proof," the colonel said.

"We haven't actually run over it with a

HUMVEE, but it does stay together well, and that's an important factor because we need soldiers to be able to carry it in their packs and run around with it, fall down on it (without damaging it), etcetera" Pusateri said.

Further, chitosan is also antimicrobial, so it kills germs as a "nice freebie" for soldiers injured on dirty battlefields, Vandre said.

For now, the Food and Drug Administration has approved the chitosan dressing for external use and the Army will use it on arm and leg, or extremity, wounds, which account for 10 percent of battlefield deaths. Col. John Holcomb, MD, commander of the U.S. Army Institute of Surgical Research, a combat surgeon in Somalia, witnessed that statistic firsthand while treating soldiers in Somalia who had pelvis and extremity wounds and died.

"With no other major injuries, I couldn't stop their bleeding. It was extremely frustrating," he said.

Researchers also believe hemostatic dressings can save limbs as well as lives because they limit the amount of time a tourniquet is needed. "You can't leave a tourniquet on for more than a few hours, or the loss of circulation in that limb will cause it to need to be amputated," Vandre said. "The thought with this dressing is that you can put on a tourniquet, stick the dressing on, stop the bleeding, then take the tourniquet off and keep circulation to the limb (so amputation isn't necessary)."

Researchers at the Institute of Surgical Research will take the dressing to the next level—internal use—this spring to see if the body can absorb the bandage.

The Point is published quarterly by the U.S. Army Medical Research and Materiel Command under the direction of the Commanding General, Maj. Gen. Lester Martinez-Lopez.

Its contents do not necessarily reflect the official views of the U.S. Government, the Department of Defense or the U.S. Army.

Editorial content is prepared by the Public Affairs Office, which can be reached by calling 301-619-7549 (DSN prefix 343) or e-mailing karen.fleming-michael@det.amedd.army.mil.

Enzymes, sponge play key roles in future chem protection products

An enzyme found in the body, butyrylcholinesterase, appears to be an effective pretreatment for nerve agent exposure.

“Humans have butyrylcholinesterase in their bodies that naturally detoxifies it,” said Col. Michelle Ross, director of the Medical Chemical Defense Research Program for the U.S. Army Medical Research and Materiel



Researchers at the Walter Reed Army Institute of Research have developed a sponge that may assist in decontaminating people and equipment after a chemical attack.

Command. “When it’s administered in an appropriate dose, it protects people from nerve agent exposure for up to two weeks. If a person is exposed to a nerve agent poison, they’re not affected.”

Nerve agents, called organophosphates, work by attacking a class of enzymes in the body, called cholinesterases. When there’s not enough of the enzyme, too much of the

neurotransmitter acetylcholine builds up and overwhelms receptors in the body. The human serum butyrylcholinesterase, however, binds to the organophosphate and eliminates it before it reaches its target: brain acetylcholinesterase.

“In studies, it’s protected animals from lethal doses of all the nerve agents and stimulants that were tested: VX, sarin, MEP, tabun,” Ross said.

When study animals were given doses of the enzyme, there were no side effects, thus researchers at the Walter Reed Army Institute of Research and the U.S. Army Medical

Research Institute of Chemical Defense are confident there’s no harm in humans having higher than normal levels of the enzyme in their bloodstreams.

Getting hold of and purifying large amounts of the enzyme is a task that respectively fell to WRAIR researcher Dr. Ashima Saxena and a Frederick, Md., company named MedImmune. Army researchers found they could harvest many of the components they needed using outdated human plasma. They have also started looking at ways to produce affordable, genetically engineered butyrylcholinesterase in greater amounts than by using outdated human plasma. “It’s pretty exciting research,” Ross said. “We’re just waiting for the okay to go into human clinical trials.”

Another item in the research stage at WRAIR that uses similar principles is a decontaminating sponge. Impregnated with enzymes that grab organophosphates and arrest them before they can harm, the sponge, researchers hope, will replace the M291 kit. The kit works by having soldiers rub activated charcoal over themselves to absorb chemical warfare agents.

By including the enzyme acetylcholinesterase in the sponge, “it grabs organophosphates, whether it’s the ones we have today, the ones used years ago or ones that may be created in the future,” said Dr. Richard Gordon, a researcher studying new tools for decontaminating people and equipment at WRAIR. “The additives in the sponge not only remove the organophosphates from the skin but also destroy them.”

Paste closes gaps in chem protective gear

Studies show there's a fairly high rate of incorrectly putting on mission-oriented protective posture, or MOPP, gear so soldiers may expose themselves to possible leaks, said Dr. Ronald Clawson, Deputy Project Manager, Chemical Biological Medical Systems Project Management Office.

"At the various points of closure, like at the ankles, wrists and neck, and waist, MOPP gear has a potential to leak, not because of a fault in the MOPP gear itself but because it may not be put on correctly, quickly," he said.

This vulnerability was one of the reasons that scientists at the U.S. Army Medical Research Institute of Chemical Defense invented SERPACWA to act as a barrier against chemical weapons. Resembling vegetable shortening in appearance and texture, the Army-patented Skin Exposure Reduction Paste Against Chemical Warfare Agents

quickly forms a non-tacky film on the skin after it's applied where gaps in MOPP gear can occur. The paste is also applied to sweat-prone areas, such as underarms, the groin and the backside because researchers discovered during the Iran-Iraq War that blister agents are more effective where there's sweat.

"Currently for blister agents, there hasn't been a good treatment or antidote, so the goal is to prevent exposure," said Dai

See "Paste," page 4



The Army-patented Skin Exposure Reduction Paste Against Chemical Warfare Agents quickly forms a non-tacky film on the skin to act as a barrier against chemical weapons where gaps in MOPP gear can occur.

"Enzymes," continued

To make the sponge, two compounds are combined in a double-barreled syringe. With the consistency of a piece of bread, the sponge can be made the size of a towelette or larger for big clean ups.

"With this product, you can squirt it right on the chemical (agent) and no chemical will come out," said Dr. Bhupendra Doctor of WRAIR. "So not only will it detoxify it, but it will contain it. People can pick it up, and it can't contaminate any longer because anything that's bound to it is permanently enclosed and gradually destroyed."

Researchers at WRAIR are also looking at how to reactivate the sponge once its enzymes are ex-

hausted by adding chemicals called oximes to the sponge.

The sponge may also play the role of a sensor.

"When there's a reaction, the sponge changes color. That says the enzyme has encountered a nerve agent," Ross said. "So if the color changes, you start decon, look for casualties and run."

Right now, the sponge is only marginally effective against vesicants, or blister agents, so WRAIR researchers continue improving it.

"The warfighter isn't interested in something that just works against nerve agents," Ross said. "They want something that works against everything: a universal decon sponge."

When used to complement the MOPP gear that soldiers already carry, the paste not only protects but also buys time until warfighters can decontaminate after an exposure.

“Paste,” continued

Kee Liu, the product manager at the U.S. Army Medical Materiel Development Activity. Since 1991 the Army has ushered the product through the advanced development process. The Food and Drug Administration granted approval in 2002.

SERPACWA works much like non-stick coating on frying pans, Liu said. The two components in the paste—a fine powder and an oil—when combined, create a chain of molecules that act as a barrier against not only major blister threats, like sulfur mustard and T2 toxin, but also nerve agents, like VX, soman, thickened soman, and a riot control agent, tear gas.

When used to complement the MOPP gear that soldiers already carry, the paste not only protects but also buys time until warfighters can decontaminate after an exposure.

“You might not be able to decontaminate when you’ve got people shooting at you, so what we’ve done is given them this barrier to allow them time to get back to a clean area where they can decon,” Clawson said.

“We’ve done studies that show that ... when you have SERPACWA on and

you decontaminate afterward, you have practically 100 percent protection against blister and nerve agents.”

Supplied in a 5 1/2 by 4 1/2-inch green foil packet with yellow instructions, the scentless paste doesn’t wash off easily, so soldiers won’t even know it’s there. Developers recommend re-applying it every eight hours, although studies show it’s as effective at 12 hours as when it was first applied, Liu added.

Soldiers gave positive responses to the new version, and developers plan to conduct additional field tests in late winter or early spring of 2003 to formally gather responses on ease of use.

Meanwhile, for the next generation of topical protection, scientists at the U.S. Army Medical Research Institute of Chemical Defense, including Dr. Ernest Braue Jr. and Capt. Stephen Hobson, are using SERPACWA in formulating a topical skin protectant that can destroy or neutralize chemical agents.

“It’s a completely different program, but in their development process, they found that the best combination of things that work included SERPACWA in the formulation,” Clawson said.

Speaking of SERPACWA...

The U.S. Army Medical Research and Materiel Command has granted a license for SERPACWA’s technology to DFB Pharmaceuticals Inc. and its affiliates Healthpoint Ltd. and DPT Laboratories. The licensing agreement was signed in September 2002, and provides licensing fees and royalties on commercial sales to the USAMRMC.

The agreement grants DFB Pharmaceuticals the right to develop the protectant cream into commercial products for consumers. Such products would be developed “to reduce the reoccurrence of contact dermatitis associated with exposure of skin to a variety of irritants, including allergens such as poison ivy, oak and

sumac, as well as solvents and bodily fluids,” said Paul Duesterhoft, DFB Pharmaceutical’s vice president for New Business Development. DFB’s Healthpoint affiliate will seek FDA approval for the consumer-based products and will also pursue approval of the current military product for use by first responders and consumers.

“This is a positive business arrangement that takes a product out of the government and into the real world,” said Dr. Paul Mele, director, Office of Research and Technology Applications, at USAMRMC.

—Cindy Kronman, U.S. Army Medical Research Institute of Chemical Defense

Shigella vaccine to defeat deployment diarrhea

During Operations Desert Shield and Storm 57 percent of troops had at least one bout with diarrhea; 20 percent reported they were temporarily incapacitated by it, according to the 1998 Army Science and Technology Master Plan.

To combat the foe, researchers in the Walter Reed Army Institute of Research's Department of Enteric Infections are developing new vaccines to help deployed warfighters combat the ubiquitous bacteria.

So far, the institute has four vaccines in the works. "Ideally, the goal would be to have one vaccine that will protect against multiple pathogens that can easily be given to deploying soldiers," said Maj. David Katz, a senior clinical investigator at WRAIR.

A vaccine to combat *Shigella flexneri*, called SC602, was developed along with The Institut Pasteur. Since 1992 it has undergone clinical trials in the States and Bangladesh. "The wonderful thing about the shigella vaccines is... the bacteria (used in them) are alive but weakened to diminish the amount of symptoms," Katz said.

Receiving the oral vaccine before deploying is key, Katz said. "Most of the soldiers will get hit right when they arrive in a new area, either because they're eating on the economy or they're in a new area and their system has not been primed."

Another reason to give the vaccine ahead of time is because of potential side effects, said Dr. Thomas Hale, Chief of the Department of Enteric Infections at WRAIR. "The vaccine can cause some short-term fevers and mild diarrhea in 20 percent of the people who receive it, so sol-

diers need to take it well before they get on a plane."

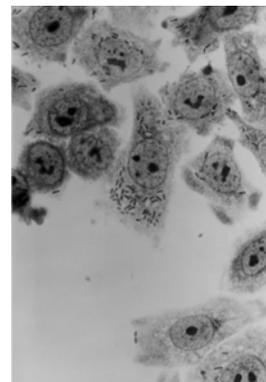
A vaccine for *Shigella sonnei*, which attacks travelers and stateside daycare centers, is a possible stand-alone product, Hale said. "This one vaccine could make a significant difference in the health of soldiers deployed to the Middle East (where 90 percent of outbreaks occur) and the developing world."

Drs. Malabi Venkatesan and Antoinette Hartman from WRAIR developed the oral vaccine, called WRSS1, that is currently in clinical trials in conjunction with the University of Maryland Medical School and the National Institute of Allergy and Infectious Diseases.

To combat the deadly form of diarrhea, dysentery, WRAIR researchers are working with the Bloomberg School of Public Health at Johns Hopkins University to test the oral Walter Reed Shigella-Dysentery-1 vaccine, WRSD1.

The other diarrhea-causing bacteria WRAIR and Navy Medical Research Unit researchers are trying to disable is *E. coli*. Whereas shigella bacteria invades a cell's wall and moves from cell to cell to spread the disease, *E. coli* prefers to stick to the intestine's lining, homestead and crank out toxins that cause diarrhea. To outsmart the unwanted tenant, researchers are trying to make antibodies that will prevent squatters from colonizing because they can't stick to the intestine. The vaccine's been tested in a time-release capsule form as well as a transdermal patch,

"It should be easy for the soldier to use: Just pop the patch on and that's it," Katz said.



Shigella

Dentists receive lighter, powerful tools

When Army dentist Col. Steven Eikenberg, then a major, was assigned to a medical company at Fort Bragg that deployed often, his after-action reports got to the heart of the

problems with field dental equipment: the generator and air compressor were too heavy and noisy and dental handpieces broke too frequently.

When his reports reached the commander of the U.S. Army Dental Research Detachment, then located at Walter Reed, he dared Eikenberg to make a difference by becoming a researcher for the detachment that was moving to the Naval Training Center at Great Lakes, Ill.

The results of Eikenberg's quest for more lightweight, durable and less power hungry equipment have now come to fruition with the multi-patented Dental Field Treatment and Operating System.

Because a five-kilowatt generator powered the old dental equipment, dentists needed to pull a trailer behind a high mobility multipurpose wheeled vehicle. "It was like carrying a second vehicle," Eikenberg said.

The new system gets rid of the trailer because it runs on a two-kilowatt, portable generator, a 500-watt generator or off a vehicle's battery. This mobility, said Col. Tim Jones, a dental consultant at the Army Medical Department Center and School, is precisely in line with the Army Chief of Staff's transformation vision

of increased mobility and deployability.

The system's new handpiece also reduced weight while improving reliability, expanding capabilities and reducing noise. Instead of using the air-turbine handpiece that most people associate with the high-pitch whine in a dental office, the DEFTOS has an electric handpiece.

The air turbine handpieces wore out rapidly so dental teams needed to pack several for deployments because one or two invariably failed. The new ones, according to an Air Force evaluation team at Great Lakes, have "exceptional" track records when it comes to reliability, said Lloyd Salisbury, U.S. Army Medical Materiel Development Agency's product manager for the DEFTOS.

The new handpiece's intraoral fiberoptic light lets dentists see inside a patient's mouth when lighting is less than optimal, and its higher torque prevents it from stalling while the dentist prepares a tooth.

The DEFTOS also protects providers from the hearing loss that results from continued exposure to noisy compressors and the whine of the conventional handpieces.

The Army currently has 20 of the new systems, which have been tested in Europe, Korea, Japan and in the States. The contractor is currently modifying one unit, "just to make sure we haven't created any problems with our changes," Salisbury said. Once the improvements are approved, the remaining 19 will also be modified and again be issued to dental units for extended user evaluation while Jones determines where they will be fielded.



The Dental Field Treatment and Operating System replaces heavy field equipment.

Activity adopts e-business system

A new program, called SR-Web, which stands for Solicitation and Response-Web, lets vendors know when the U.S. Army Medical Research and Materiel Command wants to purchase items, lets vendors submit a bid through the Web and later tells them if they were chosen to supply the items.

The program works like an Internet auction. “We tell them through the Web what we’re buying and they can send in a bid through the Web to sell it at a certain price with a certain delivery date,” said Craig Lebo, deputy director for Business Management, for the U.S. Army Medical Research Acquisition Activity.

Lebo said the acquisition community’s long-time vision is to have an electronic outreach so solicitations for what the Army wants to buy get into the hands of sellers quicker.

“The federal procurement process has always taken too long, and we’re trying to change it so it’s more efficient and effective and the customer gets what they need quickly,” Lebo said.

Currently, SR-Web is designed to handle purchases of commercial items and services under \$5 million. Last year, the activity spent more than \$20 million on awards generated from electronic solicitations. Invitations to bid and requests for proposals, which handle higher-priced and more complex actions, as well as Broad Agency Announcements and Program Area Announcements, which allow researchers to submit proposals, and are too large and complicated to use the SR-Web, although they can be downloaded from the site.

Although contracting offices in recent years have automated at least some portion of their workloads, using the Web for the whole process is groundbreaking, and a time saver for both the government customer and the vendors.

“It saves time for the vendors because now they can see the solicitation online, and they don’t have to prepare a paper bid, send it and hope it got to us. They can just submit it via the Web. If there’s an award, they can see that, too” said Jim Connors, procurement analyst in the USAMRAA Information Management Office.

SR-Web costs in the mid-\$30,000 range, which includes the purchase, installation, training and maintenance. Because SR-Web is part of a suite of programs that interacts with the Department of Defense’s acquisition program, called Procurement Desktop-Defense, it helps streamline the work of the 80 contracting specialists at Fort Detrick. A sister program to SR-Web called Offer Evaluation Web, or OE-Web, lets contract specialists rank all bids collected from SR-Web on the closing day to make an automated evaluation to assist the specialist in determining which vendor is offering the best deal for the government.

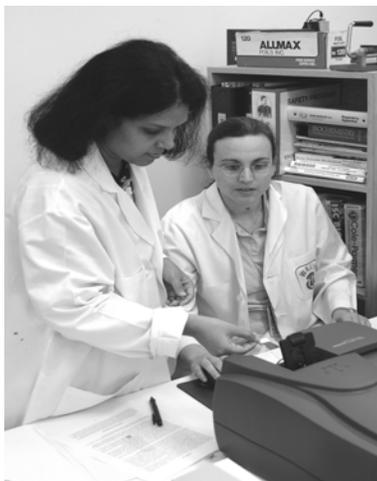
“The value of OE-Web is, once the program makes its recommendations and the specialist analyzes the data, the system pulls together all the data it needs and creates the award document, saving the specialist hours of work,” Lebo said. OE-Web also sends a notification e-mail to the winning vendor as well as to vendors whose bids were not selected.

“We tell them, through the Web, what we’re buying and they can send in a bid through the Web to sell it at a certain price with a certain delivery date.”

—Craig Lebo, deputy director for Business Management, for the U.S. Army Medical Research Acquisition Activity

Diagnosis possible with gene expression

Geneticists at the Walter Reed Army Institute of Research's Molecular Pathology Lab have discovered that instead of looking for a specific biological agent—the traditional medical route for diagnosis—treatment answers may be found in blood cells' gene expression response.



Drs. Rina Das and Rasha Hammamieh work with gene expression at the Walter Reed Army Institute of Research.

“With our technology, we found that if we take blood soon after exposure to a biological agent, we can find genes changing because of the blood's immune cells that are first responders,” said Dr. Rina Das, group leader for molecular biology. “If you give blood an insult—any kind of stress or infection—these cells will respond.”

Knowing that each bacteria creates its own signature response can help providers quickly identify the correct treatment—even if the patient isn't showing any symptoms and providers don't know what pathogen they've encountered.

“We don't really need to identify the pathogen, whether it's anthrax or smallpox,” Das said. “Once you have been exposed to a deadly agent, the genes indicate that you are going to come down with kidney failure or pulmonary distress. The genes predict what will happen so treatment can start.”

Time is a critical player with the now-patented technology, which can pick up blood changes as early as 30 minutes after an exposure to a toxin.

“With toxins, you have to treat the patient quickly,” said Dr. Marti Jett, chief of the Department of Molecular Pathology. “With bacteria and viruses you may have a little leeway. Some of the diseases are acute, and you have to act fast.”

The work has validated the researchers' belief in the role of genetics in diagnosis.

“People are skeptical about diagnosis based on gene expression,” Jett said. “We still have a lot work to do, but our findings have shown that host gene responses can provide early markers of pathogen exposure, and that could lead to identification of new therapeutic targets that can be initiated rapidly.”

People in the News



Baxter

Seeing stars

Secretary of Defense Donald H. Rumsfeld announced Feb. 27 that the president nominated **Col. Sheila R. Baxter**, chief of staff, U.S. Army Medical Research and Materiel Command, for appointment to the rank of brigadier general.

Baxter, a native of Franklin, Va., said in her wildest dreams, she never

expected to be nominated, especially having pinned on colonel two years ago. Only one brigadier general slot is available to Medical Service Corps colonels to aspire to.

“This was all from God,” she said, pointing up. “I had nothing to do with it.”

The Senate confirmed the nomination March 31.

People in the News



Gupta

Gorgas Medal

Col. Raj Gupta received the Gorgas Medal at the November 2002 Association of Military Surgeons of the United States Conference. Named for Maj. Gen. William Crawford Gorgas, the award is given “for outstanding contributions to military preventive medicine in support of military medical research and the national defense.”

“The award is recognition of my work that I’ve done over the years on products that help soldiers survive and make their lives a little bit easier,” said Gupta, the U.S. Army Medical Research and Materiel Command’s director of research plans and programs for the past two years.

Gupta’s nominator, Col. Frazier Glenn, deputy for research and development, said Gupta is tenacious when it comes to getting products to the warfighter.

“He has the knack that so many don’t...for being able to stick with the concept to implementation,” Glenn said. “If the bureaucracy blocks the road to success in one avenue, then he finds the back road or the side road to get make sure that the funding and the user acceptance all comes together.” Glenn was not alone in recognizing Gupta’s qualifications for the award. The late Col. Don Johnson, who worked with Gupta, prepared the nomination package for signature before Glenn could ask him to help draft it, Glenn added.

Excellence

Capt. Mark Hartell learned he’d taken one of the Medical Service Corps’ top honors when Brig. Gen. Richard Ursone, Assistant Surgeon

General and Deputy Chief of Staff for Force Sustainment for the U.S. Army Medical Command broke the news Jan. 3. Hartell was the 2002 Chief, Medical Service Corps Award of Excellence winner in the health sciences category.

“I stood all by myself at attention in my office as I spoke to him,” the captain said, laughing.

Since receiving his direct commission, Hartell has been working on a class of malaria drugs called tryptanthrins, along with Capt. Daniel Nichols, Dr. Apurba Bhattacharjee and Dr. Ricky Hicks and an interdepartmental team of about seven additional scientists.

The department he works with conducts research on experimental therapeutics, and the tryptanthrins certainly lives up to the division’s name. Because funds for drug development must be spent prudently, researchers at WRAIR use computer modeling techniques to find out how a molecule does what it does and how it might be used to fight the malaria parasite.

“That allows us to eliminate a tremendous amount of trial and error without going into the laboratory and using chemicals and spending resources,” Hartell said.

The Staten Island, N.Y., native also works as a consultant for the Air Force Munitions Directorate at Eglin Air Force Base, Fla., and the Defense Threat Reduction Agency. And if that work doesn’t keep him busy, his other job as a lecturer and spokesperson for the Anthrax Vaccine Immunization Program Agency does.

Calling him “absolutely the finest allied scientist that I have ever



Hartell

People in the News

known,” Lt. Col. John Van Hamont, Chief of Medicinal Chemistry and Hartell’s supervisor, said that when he was detailing Hartell’s work, he had a difficult time keeping within the page limitations for the award nomination.

“Quite simply, to say that Captain Hartell’s future is paramount to the Medical Service Corps and the U.S. Army is an understatement,” Van Hamont said.



Bush

NCO, Soldier of the Year

Thirteen soldiers from U.S. Army Medical Research and Materiel Command units competed in early February to be named the command’s Soldier and NCO of the Year.

U.S. Army Medical Materiel Center, Europe

Sgt. Keoki Suerth

Spc. Timothy O’Camb

U.S. Army Aeromedical Research Laboratory

Sgt. Marcia McGee

Spc. Reid Carpenter

U.S. Army Medical Research Institute of Chemical Defense

Sgt. Tony John

Spc. Mark Smith

Walter Reed Army Institute of Research, Dental

Research Detachment

Sgt. Cindy Williams

Spc. Jonathon West

U.S. Army Research Institute of Environmental Medicine

Sgt. Tommy Bruington

Spc. Daniel Kemp

U.S. Army Medical Research Institute of Infectious Diseases

Sgt. Gary Bush

U.S. Army Medical Information Systems and Services Agency

Sgt. Jason McCoy

Spc. Rogelio Buenrostro



O’Camb

Sgt. Gary Bush of the U.S. Army Medical Research Institute of Infectious Diseases, and **Spc. Timothy O’Camb** of the U.S. Army Medical Materiel Center, Europe, learned Feb. 5 they were chosen to represent the command at the U.S. Army Medical Command competition as NCO and soldier of the year, respectively.

Inventor

When **Staff Sgt. Eric Smeed** volunteered to help the U.S. Army Institute of Surgical Research’s burn team during a mass casualty exercise in March 2000, he was on his way to making an indelible mark on military medicine. Approached by Lt. Col. Lee Cancio, the Special Medical Augmentation Response Team leader in San Antonio, Smeed was asked to find a way the team could avoid strapping medical equipment to a patient, which to a burn patient is uncomfortable and can injure the patient and the equipment.

After developing a \$1,500 prototype with the Air Force machine shop at Brooks Air Force Base, Texas, in June 2000 then creating three additional versions, the platform is now patented, licensed and in production at Impact Instrumentation, Inc., in New Jersey. The Special Medical Emergency Evacuation Device, or SMEED, is a black, aluminum and stainless steel platform, that is 14 inches long, 22 inches wide and adjusts to three heights. It mounts anywhere on a standard NATO litter and with two pins and special brackets can hold portable medical equipment, including a ventilator, suction, monitor, infusion pump, power supply



Smeed

People in the News

and steel and carbon-fiber oxygen cylinders.

Smeed received a \$5,000 award from the Army Ideas for Excellence Program. Now a recruiter in Tampa Bay, Fla., he was recognized as Army Military Suggestor of the Year for 2002 in a ceremony at the Pentagon March 14.



Ross

Woman to watch

Col. Michelle Ross, director of the Medical Chemical Defense Research Program for the U.S. Army Medical Research and Materiel Command, was chosen as one of Jewish Woman magazine's 10 Women to Watch for 2002.

Of the 100 women initially in the running, Ross made the final cut to the top 10 after several elimination rounds. Though some of the honorees were nominated, Ross was chosen because her name appeared in the magazine's files of newspaper and magazine clippings, said Jessica Buel, marketing associate for the magazine.

"Essentially, we nominated her," Buel said. Other women to make the top 10 list include a breast cancer researcher, a rabbi, a vice president with Chanel, and a documentary filmmaker, to name a few. The women were selected "for their inspiring work in art, culture, community, business, politics, media, family, science and spirituality," according to the magazine's press release.

New inductees

New members were inducted to the Order of Military Medical Merit at the U.S. Army Medical Research and Materiel Command Conference Feb. 2-6. Membership is limited to Army Medical Department commis-

sioned and noncommissioned officers and civilians. New inductees include:

- Col. Kenneth Bertram
- Lt. Col. R. Keith Martin
- Lt. Col. Beau Freund
- Col. Isiah Harper
- Lt. Col. Jose Lopez
- Maj. Robert Wildzunus
- Sgt. Maj. Bernadette Welsh
- Master Sgt. Michael Brooks

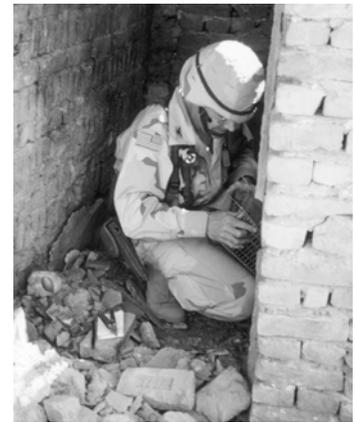
Bronze Star awardee

Col. Daniel Strickman was awarded the Bronze Star June 5 for his six months of work for the Third Medical Command, which covers land from Kyrgyzstan to the Horn of Africa.

"The most interesting thing was being able to apply my profession over such a huge area and make it work," said Strickman, who works at the Walter Reed Army Institute for Research. "Starting out, I wouldn't have said that was possible, but that was our job and that's what we did."

As head of the preventive medicine section and theater entomologist for troops throughout Afghanistan and Pakistan, Strickman had his hands in everything from food safety, drinking water, air quality and waste disposal to insect, rodent and snake surveillance and control. He and his staff also created a system to delouse 200 detainees in Kandahar before they could be sent to Cuba.

For the colonel who also served in Honduras during a conflict in 1986, this Bronze Star is a first. The medal is granted for heroic or meritorious achievement on the ground while engaged in an action against an enemy of the United States.



Strickman

Dr. Specialist

Spc. (that's right, specialist, E-4) "Dr." **Anthony Williams**, of the Walter Reed Army Institute of Research after defending his research thesis Feb. 19, completed his requirements for a doctor of philosophy degree in neuroscience.

Earning the degree required the 33 year old to juggle a full-time course load with a full-time job of providing research support for the Department of Neuropharmacology and Molecular Biology. Williams supported research programs, maintained a high-priced hand receipt and, as junior enlisted soldiers must, pulled guard duty and served on trash detail.

The soldier's "talent, his work ethic, and ferocious appetite for knowledge" allowed Williams to complete the degree, said Dr. Frank Tortella, one of Williams' mentors who also supervises him at WRAIR. "I'm never at a loss of adjectives to describe how outstanding he is."

Williams will receive his degree at the Uniformed Services University of Health Sciences May 17, four and a half years after starting his journey.

Winning researcher

Dr. **Connie S. Schmaljohn**, U.S. Army Medical Research Institute of Infectious Diseases, received the first Joel M. Dalrymple award presented by the Association of Military Surgeons of the United States.

Schmaljohn accepted the award at the AMSUS Annual Meeting in Louisville, Ky., in November.

The award is named for Dr. Joel M. Dalrymple, an internationally renowned virologist and molecular biologist who made substantial contributions to the field of modern vaccine development for the Department of Defense. Throughout his career, he

played a major role in the success of multiple vaccine projects conducted at USAMRIID and at the Walter Reed Army Institute of Research. He died in 1992.

According to the AMSUS Web site, the award is given to "an individual who has made a significant contribution in the development of modern biological defense vaccines."

Schmaljohn came to USAMRIID in 1980 to work as a postdoctoral research fellow in Dalrymple's laboratory, having earned her doctorate at Colorado State University. Her initial efforts were focused on the virus that causes Japanese encephalitis. In 1981, she began studying hantaviruses, which became her life's work.

Currently, Schmaljohn and colleague Dr. Jay Hooper are working on a new hantavirus vaccine that looks very promising in animal models. According to Schmaljohn, the DNA vaccine should be ready for clinical trials in about a year. It is expected to be protective against three different viruses that cause HFRS. A second candidate is being developed to protect against Puumala, a related virus.

Partnership award

The U.S. Army Research Institute of Environmental Medicine, in Natick, Mass., received the 2002 Outstanding School Partner award from the Massachusetts Association of School Committees and Ashland School Committee for its contributions to the David Mindess School during a ceremony at the school Dec. 17.

USARIEM was nominated by the Ashland school system, which has a formal agreement with USARIEM under the federal Partnership in Education program, and along with the Natick and Framingham school systems, actively supports science education. The institute was selected from more than 80 nominees statewide.



Williams



Schmaljohn