

## From the Desk of

Ellen P. Embrey

Mental health became part of the national conversation recently in the aftermath of the tragic events at Virginia Tech as a network of mental health resources—including healthcare providers, school counselors, chaplains and others—quickly came together to help students, faculty, and families cope. As a Virginia Tech alumna and the parent of a currently enrolled student, the matter touched me personally.

I would like to take the opportunity to reflect on the importance of mental health and the resources the military provides to our valued Service members and their families. With the goal of reducing stigma, increasing early intervention, and providing needed support and treatment, a number of resources are available.

Most military hospitals and clinics offer a variety of mental health options to identify and treat all stages of need, with dedicated mental health clinics and the integration of behavioral health consultants with primary care providers. Additionally, family members can seek assistance from civilian providers in the TRICARE network.

The completely anonymous, voluntary Mental Health Self Assessment Program can be a valuable early step in identification and treatment of mental health needs. The MHSAP offers self assessment and re-assessment screenings, targeted educational materials, and referrals when needed. The MHSAP is available online at [www.militarymentalhealth.org](http://www.militarymentalhealth.org) or toll free via the MHSAP hotline at 1-877-877-3647.

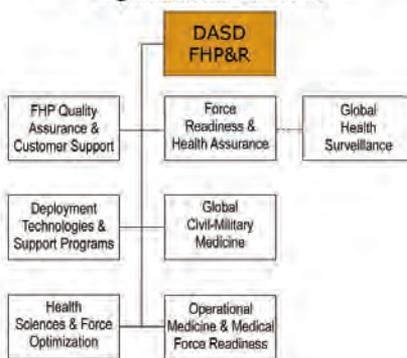
This year, the MHSAP added a new component – the Signs of Suicide (SOS) program for DoD schools. This program includes mental health training for our children and youth in DoD middle and high schools to increase awareness of such conditions as depression and signs of possible self-harm. It also includes educational materials for parents and teachers to help them recognize mental health concerns and how to take appropriate action.

Military OneSource ([www.militaryonesource.com](http://www.militaryonesource.com)), chaplain services, and other installation support services such as community and family readiness centers can provide counseling, guidance, and referral on many issues that affect returning service members and their families. Additionally, Vet Centers established by the Department of Veterans Affairs provide a limited array of free counseling and other services to family members of combat veterans.

As Deputy Assistant Secretary for Force Health Protection and Readiness, my commitment is to ensure that total health of our Service members and their families, including their mental health needs, are emphasized as a vital part of our force health protection mission. ♦



The Force Health Protection & Readiness Organizational Structure



This spring, our organization was formally renamed Force Health Protection & Readiness Policy and Programs to more accurately reflect its recent growth and broader scope. This includes the shaping of policy and promoting force health protection and medical readiness programs throughout the Department of Defense (DoD). Additionally, we have restructured our organization, establishing eight functional capability areas to better support Service members and their families, health care professionals, and military leadership. The revised organizational chart is at left, with more detailed discussions of each area's responsibilities—and an introduction to our new Web site—found throughout this issue.

# New Guidance Provides for Enhanced Force Protection

By Randy Pullen, staff writer

A recently published revised Defense Department (DoD) instruction contains provisions that significantly improves the health protection of our deployed troops.

DoD Instruction 6490.03, Deployment Health, published August 11, 2006, replaced DoD Instruction 6490.3, "Implementation and Application of Joint Medical Surveillance for Deployments" that was published in August 1997.

According to Dr. William Winkenwerder, Jr., immediate past assistant secretary of defense for health affairs, the new instruction enables the Defense Department to better protect the health of our deployed troops.

"This is a significant development with respect to our ongoing commitment to our Service members and, of course, their families, as well as DoD civilians and contractors," he said. "It comes on top of everything else that we have been doing and I think is really excellent in support of our deployed warfighters today that relates to battlefield medicine, aero-medical evacuation, preventive vaccines and medical treatments."

The instruction updates deployment health policy and procedures for all joint and service-specific deployments, both within the continental U.S. and overseas.

A core set of health requirements are prescribed for deployments that are less than 30 days duration and for those that occur within the continental U.S. Additional protection measures over and above the core requirements are determined through a pre-deployment risk analysis. For traditional deployments – those lasting 30 or more days outside the continental U.S. – the instruction specifies more than 30 required deployment health activities.

"Deployment Health" adds

the Post-Deployment Health Reassessment Program (PDHRA) to the pre- and post-deployment health assessments prescribed in the earlier instruction. Conducted three to six months after a person returns from a deployment, this re-assessment lets health care providers take another look at physical and mental issues that might not be apparent immediately following a deployment.

The new instruction recognizes the reality of civilians on the battlefield and their importance.

"So, in addition to U.S. Service members, prevention and protection measures now include Department of Defense civilian employees and our contractors who deploy with U.S. forces," said Winkenwerder.

Also acknowledging the importance of monitoring possible environmental and occupational exposures, the updated instruction directs more accurate tracking of personnel as they move about in theater. The location information is archived in a searchable database maintained by the Defense Manpower Data Center.

The new instruction directs environmental monitoring and exposure data to be linked with the locations of deployed personnel, in addition to providing accurate data to calculate rates for epidemiological and prevention purposes. These actions facilitate medical follow-up and communications with Service members who may be at risk.

The provisions found in "Deployment Health" also apply to the Reserve Components, said Ellen Embrey, deputy assistant secretary of defense for force health protection and readiness.

By obtaining and documenting health care information on deployed reserve Service members while they're on active duty, the military

health system supports care for reservists. The DoD also works with the Department of Veterans Affairs (VA) to make sure that eligible reserve Service members have the ability to be seen in VA facilities to address their concerns associated with their deployment, according to Embrey.

"The VA has a requirement in law to provide access to care for veterans of combat operations for up to two years following their deployment," Embrey said. "That, in combination with a series of new programs offered to Reserve Component members here in the department, provides the wide array of opportunities for reservists to seek care for their health issues, both physical and mental."

She also said that much of the responsibility for Reserve Component Service members achieving the required health standards and getting regular care rests with the reserve Service members themselves, by making their health issues known to health care providers and in taking advantage of the care available to them.

Winkenwerder reiterated that the publication of "Deployment Health" was the latest in a continuous quest by the DoD to prevent, identify and treat physical and mental health problems early, often and where needed.

"It's making a difference," Winkenwerder said. "There is no question about that, and I think great credit goes to all of the services, to the surgeons general, to their staffs, to our people who do research in these areas." ♦

The complete DoD Instruction 6490.03 can be found at <http://www.dtic.mil/whs/directives/corres/html/649003.htm>.

## FEDS\_HEAL Program Enhances Reserve Medical and Dental Readiness

By Benjamin Bryant, staff writer

**F**EDS\_HEAL, a program vital to the medical and dental readiness of the Reserve Component of the force, changed its name in May 2007 to the Reserve Health Readiness Program (RHRP).

Created seven years ago with a budget of \$2 million, the Federal Strategic Health Alliance (FEDS\_HEAL) program, was a Department of Defense (DoD), Health and Human Services and Veterans Health Administration partnership to provide anthrax immunizations to Reserve Component Service members. In fiscal year 2006, with a \$70 million allocation, the FEDS\_HEAL program can now meet every Reserve Component Service members' Individual Medical Readiness (IMR) needs, and has significantly improved readiness for deployment by offering a wide variety of medical services (see box).

"Availability is one of the key components of this program," said Army Col. Tony Carter, M.D., FEDS\_HEAL Transition Manager at Force Health Protection and Readiness (FHP&R). "For example, medical and dental services are provided for group (up to 15 Service members) and mass (60 Service members or more) events such as the Army's Soldier Readiness Processing at agreed upon locations or contract provider facilities. Establishing a high level of medical readiness is challenging for both the active and reserve component. These services make it much easier for the unit commander to meet unit medical readiness requirements and are available any day of the week, allowing Service members the opportunity to fully participate in all unit training events during the drill weekends," Carter said.

Because of general concerns

about DoD services provided by contracts serviced through other Federal departments, DOD has brought management of this program directly under DoD control, and has instituted a full and open competition for a new contract to provide the same services. "In the meantime, a bridge contract will provide continuing and uninterrupted medical and dental readiness services for the Reserve Components until the new contract is in place," Carter said.

The bridge contract is an extension of current services and products provided under the fiscal year 2006 Federal Occupational Health (FOH) managed FEDS\_HEAL program. The bridge, funded at \$41 million until May 2007, ensured the continuity of services while DoD conducts a "full and open" competition for a long-term contract. This new contract will change the name from FEDS\_HEAL to RHRP with the same services as in the current FEDS\_HEAL bridge contract plus new services requested by the Reserve Components.

"While Reserve Components can themselves contract for medical readiness services, there are advantages to participating in the FEDS\_HEAL program," said U.S. Public Health Service Lt. Cdr. Diedre Presley, FEDS\_HEAL contracting officer's representative and task manager.

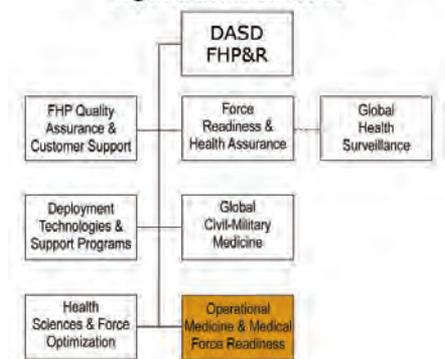
"The program has a strong quality assurance aspect that makes sure network providers understand how we need these examinations done and documented," Presley said. "All documentation is looked at by an experienced medical reviewing officer prior to being forwarded and captured in the individual service data bases. The FEDS\_HEAL/

RHRP mission under Force Health Protection and Readiness remains unchanged. The goal is Service member readiness," added Presley. ♦

### The FEDS\_HEAL contract provides:

- Hearing tests
- X-rays
- Dental exams and X-rays (bite-wings and Panorex)
- Some dental restoration/treatment/surgery
- Drug screens
- Eye exams and glaucoma detection
- Electrocardiograms (EKG)
- Immunizations (Flu, Hepatitis, MMR, Polio, Yellow Fever, Diphtheria/Tetanus, etc.)
- Laboratory testing (HIV, G6PD, Pregnancy, Urinalysis, Blood Typing and RH, etc.)
- Periodic Health Assessments (PHA)
- Post Deployment Health Re-Assessments (PDHRA)
- Physical examinations
- Tuberculosis (TB) testing

### The Force Health Protection & Readiness Organizational Structure



## DoD Takes the Lead in Preventing Respiratory Disease

By Lt. Col. Wayne Hachey DO, MPH, USA

Adenoviruses represent a group of distinct viruses that cause infections of the respiratory and urinary tracts, eyes and intestines. Following 30 years of military medical research an Adenovirus vaccine became available in 1971 and was successfully used to dramatically reduce infections in DOD personnel, especially in training environments. In its first year of use 27,000 military hospitalizations were prevented. Unfortunately the manufacturer of this vaccine ceased production in 1996 and the vaccine became unavailable two years later. The result was a notable increase in Adenoviral infections among DOD personnel resulting in illnesses ranging from mild disease to death. Over a 5 year period over 70,000 cases of adenovirus were identified in military training centers resulting in thousands of hospitalizations.

Adenoviral epidemics in recruit populations result in both human tolls as well as increased utilization of medical resources and the need to recycle trainees back into the training schedule following absences due to illness.

Beginning in 1996 DoD scientists began to study the problem on multiple fronts. From these efforts, in 2001 DOD contracted Barr Laboratories to produce a new Adenovirus vaccine. Before administering any vaccine to our service members both effectiveness and safety must be assured. Prior to FDA approval, a series of clinical trials must be completed. Initial trials to meet these goals were completed in 2004 and the remaining two trials began in 2006. FDA approval and subsequent availability of the vaccine for use is anticipated in 2009. ♦



Photo by Master Sgt. Jose Velazquez

## Military Dentistry Enters the Digital Age

By David Steigman, staff writer

Once photography entered the digital age, it was only a matter of time before dental X-rays – which are photographic negatives – entered that age as well. Pacific Air Forces have begun phase one of a transition to digital dentistry. Under the new program, already in place at Eielson Air Force Base, Alaska, when a patient is in the dentist's chair, instead of being X-rayed by a bulky camera,

Stock photo



they will close their mouths around digital sensors, which will send an image to a computer.

Digital dentistry provides many advantages to the dentist and the environment. Digital images are immediately available for examination by the dentist, an important consideration when evaluating a crown emplacement or evaluating overhangs. Image manipulation is another advantage, allowing the dentist to enlarge the image to zoom in on a single tooth, or increasing the contrast by lightening or darkening the images. If the opinion of an off-site oral surgeon is required, images can be sent instantly with the click of a mouse. Storage and transportation

also are easier, because digital images require less space than X-rays and can be transported both by the patient and electronically by the dentist. The disadvantages are minimal – the need for dentists and dental techs to learn a new technology and the need to modify dental offices.

The environment also benefits from digital images. Dental staffs don't have to worry about disposing of hazardous material, particularly the chemicals used for developing film. Opinion differs about the reduction in radiation, although peer reviewed journals report that significant reductions occur in some cases, particularly where multiple images are required, such as for implant placements. ♦

## San Antonio Hospitals Team for Military PTSD Study

by 2nd Lt. David Herndon  
59th Medical Wing Public Affairs

A proposed pilot investigation linking three of San Antonio's military research hubs is set to evaluate the effectiveness of the Prolonged Exposure (PE) treatment technique for Service members who experience Post Traumatic Stress Disorder (PTSD) while deployed to Iraq. PE may be especially effective for helping to prevent PTSD as it directly counters the natural [instinct] to avoid internal and external reminders of a traumatic event.

"A simple way to understand the PE technique is to view it as having a patient with a package of combat stress related symptoms revisit their traumatic experience over and over [in a way that] takes the emotional sting out of it," said Lt. Col. Rick Campise, Air Force Medical Operations Agency Community Behavior Health Division chief.

The PE treatment approach has been used primarily in controlled studies with noncombat-related PTSD cases, such as motor vehicle accidents and sexual assaults. It is a goal of the Air Force Surgeon General's Office, which funded the study, to have two [treatment] models by 2007 for combat-related stress disorders.

"This new treatment approach has the potential to prevent chronic PTSD in active-duty military members if used as an early intervention for troops treated in Iraq or for those treated soon after they return from a deployment," said Dr. Alan Peterson, UTHSCSA Department of Psychiatry professor.

The study hopes to enroll around sixty participants over the next twelve months. ♦



DOD photo by Gerry J. Gilmore

## TRICARE Benefit Covers HPV Vaccine

TRICARE news release

Human papillomavirus (HPV) infection is a concern for girls and young women because it can lead to cervical cancer. TRICARE wants its beneficiaries to know a preventive vaccine is available, and that the vaccine is a TRICARE covered benefit.

The Centers for Disease Control and Prevention (CDC) reported that in 2006, approximately 9,700 cases of cervical cancer were diagnosed in the United States, and approximately 3,700 women died from the disease. Nearly all cervical cancer cases are associated with an HPV infection.

"It is important for us to protect our beneficiaries from preventable disease whenever we can," said Army Maj. Gen. Elder Granger, deputy director, TRICARE Management

Activity. "So we cover all immunizations the CDC's Advisory Committee on Immunization Practices recommends and adopts."

The CDC recommends a three-dose schedule for the HPV vaccine with the second and third doses administered two and six months after the first dose.

They recommend routine vaccination with HPV for girls eleven to twelve years old. Doctors may start the vaccination series in girls as young as nine years old, and can give a catch-up vaccination to thirteen to twenty-six years olds who have not been vaccinated previously or who have not completed the full vaccine series. ♦



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## Force Health Protection & Readiness Has a New Home on the Web

<http://fhp.osd.mil>

By Kristi Beck and Sarah Fanning, FHP&R Web Development Group

Introducing the new FHP&R website: [fhp.osd.mil](http://fhp.osd.mil) – formerly [deploymentlink.osd.mil](http://deploymentlink.osd.mil)

The Deputy Assistant Secretary for Force Health Protection & Readiness (FHP&R) has launched its new Web site, [fhp.osd.mil](http://fhp.osd.mil). The purpose of this site is to enhance communication regarding the good health of our Service members and their families.

The goal of the site is to provide information and resources that will help to:

- Safeguard the health and well-being of Service members and their families;
- Promote and sustain a healthy and fit force;
- Prevent injuries and illness and protect the force from health hazards; and
- Sustain world-class medical and rehabilitative care to the sick and injured anywhere in the world.

The content of the site has been organized to best serve our three core audiences: Service Members and their Families, Department of Defense (DoD) Leaders and Health Care Planners and Providers. The

organization of the site mirrors the FHP&R capability areas:

### Quality Assurance & Customer Support

includes interactive FAQs, FHP&R Briefings, FHP&R Online, the web version of the organization's quarterly, a press & news section and MSO/VSO section for all meetings that are held.

### Deployment Technologies & Support Programs

supports research and development of systems that electronically document medical treatment in theater. It also provides comprehensive, globally accessible health and business information that enables medical surveillance, medical situational awareness and medical command and control.

### Force Readiness & Health Assurance

is dedicated to developing policies and programs that optimize and protect the health and safety of DoD personnel during all phases of deployment. In response to the Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005, the DoD posted its health assessment policies, procedures and documents on the DeploymentLINK Web site these policies, procedures, and documents are now found at [fhp.osd.mil/ha-pg.jsp](http://fhp.osd.mil/ha-pg.jsp).

### Health Sciences & Force Optimization

develops policy for, and oversees health research and clinical investigations conducted under the Defense Health Program; the Component Clinical Investigation Programs; Congressionally Directed Medical Research Program; and



the USD(P&R) Human Research Protection Program (HRPP).

**Global Civil-Military Medicine** focuses on Force Health Protection on a global and civil level, including national disaster preparation and planning, pandemic influenza, coalition and non-beneficiary health benefits and international medicine.

### Operational Medicine & Medical Force Readiness

develops the ability to maintain medical readiness and project the continuum of health care resources required to provide for the health of the force.

The new design and organization of this site was in response to feedback from our users and numerous focus groups making it more logical, comprehensive, and easy to use. It contains all the same information that was previously on DeploymentLINK and its sub sites. The site not only enables Service members and their families, DoD Leaders, and Health Care Planners and Providers to search and find, but also helps lead them to the answers they seek. In the Customer Support section, a survey is available to provide feedback that helps keep the site relevant and user friendly. ♦



# Researchers Making Progress With Robotic Telesurgery

By Karen Fleming-Michael  
U.S. Army Medical Research and Materiel Command

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 (TATRC).

## The Basics

A surgeon using a robotic surgery system in a hospital typically sits across the room from the 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 surgeries are great for minimally invasive procedures, said Col. Noah Schenkman, chief of urology service at Walter Reed Army Medical Center (WRAMC). 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.

"Laparoscopic instruments are very current, but sometimes they're not very ergonomic. They don't allow you to make the complex, difficult maneuvers that 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. "Sometimes you're in an awkward standing position with some of the other laparoscopic cases." Because of the benefits robotic surgery offers, researchers at the TATRC 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 is 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 [2006], Moses told attendees just how close that vision is to becoming a reality.

## Meet Penelope

To further the concept of an operating room void of all people except for the patient, TATRC funded an idea that surgeon Dr. Michael Treat of Columbia University had for a robotic scrub nurse. Named Penelope,

the robot is charged with handing requested instruments to the surgeon as well as keeping count of them.

"When I first saw Penelope, it was slow. It handled five instruments, and there was a delay period between the time he (Treat) said what he wanted and what he got," Moses said. After three years of refinements, Penelope is much improved. It now responds verbally and can accurately image and retrieve 14 instruments when requested. In fact, Moses said, Penelope first assisted with a human surgery in 2005.

"This is a terrific example of technology development," he said. "If you didn't invest in the slow, draggy four or five instrument effort at one point, three years later you're not going to have a robotic scrub assistant."

## Remote Surgeries

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

As another success story, Moses offers the example of Canadian telesurgeon, Dr. Mehran Anvari, who has performed more than two dozen telesurgeries from Ontario on patients who are nearly 250 miles away.

Anvari, a scientific partner with TATRC, uses a specially configured laparoscopic robot that measures and transmits the movements of his hands and fingers to perform mini-

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# Depleted Uranium – A Hard Look at the Facts

By David Steigman, staff writer

The Department of Defense (DoD) uses depleted uranium (DU) for armor on some of its tanks and in some munitions used to penetrate enemy tanks because it is the most effective material for these purposes. The use of DU has saved countless U.S. Service members' lives by offering additional offensive and defensive capability against hostile forces.

Medical science has evaluated natural uranium for health effects for more than 50 years and depleted uranium for about 30 years. We encounter uranium every day of our lives. More than four tons of natural uranium exists in the top foot of soil in every square mile on earth. All humans eat and breathe natural uranium every day, and there are approximately 80 micrograms of uranium in each individual's body.

Natural uranium becomes depleted uranium when the more radioactive isotopes are removed to make nuclear fuel. Depleted uranium is 40

percent less radioactive than natural uranium and is not nuclear waste. There are multiple scientific studies to validate that DU does not pose an environmental threat to people in areas where it has been used in combat.

The DoD's DU Medical Monitoring policy requires urine uranium testing for Service members who are wounded by DU munitions or are in, on or near a tank or combat vehicle that has been hit by a DU round; as well as for those who are conducting battle damage assessment or repairs in or around a vehicle that has been recently hit by a DU round. The policy also directs such testing for any Service member who requests it. Each individual returning from a deployment is asked about possible DU exposure.

The DoD has tested 2,215 Service members and veterans of Operation Iraqi Freedom (OIF) for DU exposures. Of this group, only nine had positive tests for DU and all

these had fragment exposures.

The Department of Veterans Affairs (VA) has an active medical follow-up program in place for those veterans who were in or near armored vehicles penetrated by DU munitions in the 1990-1991 Gulf War. Of the 74 victims of the Persian Gulf War who are in a VA follow-up study, only a quarter have retained DU fragments in their bodies. To date, none of these individuals has developed any uranium-related health problems, including kidney abnormalities, leukemia, bone cancer or lung cancer. This DU medical follow-up program is in place today for all Service members with similar exposures.

Current scientific knowledge indicates no environmental or radiological exposure concerns with DU. This is based on studies by more than 20 U.S. and international government agencies, including the World Health Organization, the United Nations Environment



Photo by Tech. Sgt. Joe Coleman

A destroyed Iraqi T-55 main battle tank, painted with graffiti by Coalition troops, lies amidst other destroyed vehicles along the highway between Kuwait City and Basra, Iraq, following the retreat of Iraqi forces from Kuwait during Operation Desert Storm.

Programme, and the toxicological profiles developed by the Agency for Toxic Substance and Disease Registry of the Centers for Disease Control and Prevention. Many outside agencies, including the Institute of Medicine and the "RAND Review of the Scientific Literature as it Pertains to Depleted Uranium" also have looked closely at the potential health impact of DU munitions.

The Services have a DU training requirement for Service members who may be exposed. The purpose of the training is to ensure Service members know that even though there are minimal health risks associated with most DU combat exposures, some special measures should be taken to prevent unnecessary DU exposure from occurring. Exiting a vehicle that has been struck by a DU round – if operationally possible – can reduce the exposure. Using a vehicle's ventilation system can reduce the levels of DU particles remaining in

the vehicle's air. Proper field and personal sanitation techniques also can reduce or prevent exposure to DU. Unfired, intact DU munitions are safe to handle and are not a source of DU exposure.

DoD will continue to monitor those individuals with DU fragments that cannot be removed as they are still being exposed. Research on DU and other armor-piercing munitions ensures that there are no health consequences. ♦

**The Force Health Protection & Readiness Organizational Structure**

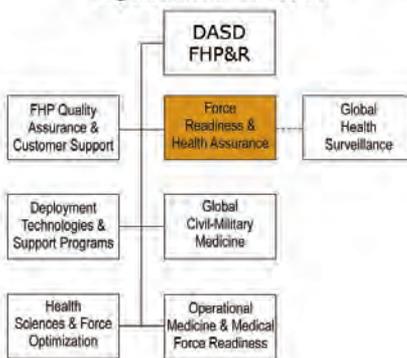


Photo by Tech. Sgt. Joe Coleman

A close-up view of the turret of an Iraqi T-55 main battle tank destroyed during Operation Desert Storm.

## Depleted Uranium Sources of Additional Information

**Many sources of information about Depleted Uranium are available on the Internet, including:**

[http://www.deploymentlink.osd.mil/du\\_library](http://www.deploymentlink.osd.mil/du_library)

**The DoD's DU Medical Monitoring policy:**

[http://www.deploymentlink.osd.mil/du\\_library/pdf/policy\\_oif\\_053003.pdf](http://www.deploymentlink.osd.mil/du_library/pdf/policy_oif_053003.pdf)

**U.S. and international government agencies, including the World Health Organization:**

[http://www.who.int/ionizing\\_radiation/pub\\_meet/en/WHA54report.pdf](http://www.who.int/ionizing_radiation/pub_meet/en/WHA54report.pdf)

<http://www.who.int/mediacentre/factsheets/fs257/en/index.html>

[http://www.who.int/ionizing\\_radiation/pub\\_meet/en/DU\\_Eng.pdf](http://www.who.int/ionizing_radiation/pub_meet/en/DU_Eng.pdf)

**The United Nations Environment Programme:**

[http://www.deploymentlink.osd.mil/du\\_library/pdfs/unep\\_du\\_kosovo.pdf](http://www.deploymentlink.osd.mil/du_library/pdfs/unep_du_kosovo.pdf)

[http://www.deploymentlink.osd.mil/du\\_library/pdfs/unep\\_du\\_serbia.pdf](http://www.deploymentlink.osd.mil/du_library/pdfs/unep_du_serbia.pdf)

**Agency for Toxic Substance and Disease Registry of the Centers for Disease Control and Prevention:**

<http://www.atsdr.cdc.gov/toxprofiles/tp150.html>

**Institute of Medicine**

[http://www.gulfink.osd.mil/iom\\_13sep00.pdf](http://www.gulfink.osd.mil/iom_13sep00.pdf)

**RAND Review of the Scientific Literature as it Pertains to Depleted Uranium:**

<http://www.gulfink.osd.mil/library/randrep/du/cover.html>

# Director Provides Broad Experience for Role in Changing Focus of Force Health Protection

By David Steigman, staff writer

Being Director, Program Integration of a large organization requires having a breadth of experience, and the knowledge and skills to organize the agency's different missions, while establishing priorities and ensuring productivity in a high demand environment.

Col. Ray Cunningham's 18 years as an Air Force general surgeon, dealing with increasingly complex duties as a surgeon and a medical administrator, have given him the ability to handle his numerous tasks at the office of Force Health Protection and Readiness (FHP&R). In his current position, which he assumed April 1, 2005, he provides military advice to the Deputy Assistant Secretary of Defense, FHP&R, integrates the strategic goals, objectives, and initiatives of FHP&R with the Military Health System's Strategic Plans. He is also responsible for developing and monitoring organizational performance indicators and tracking systems; and providing human capital, financial, and internal management. His duties include supporting the management of the Joint Medical Readiness Oversight Committee and the Force Health Protection Council, which provide Joint military and civilian guidance to the DoD medical readiness policy and programs.

His duties as Director, Program Integration, are somewhat different from his original goals in life. "Being a general surgeon was a dream of mine as long as I can remember," said Col. Cunningham, who grew up in Bryson City, N.C. After college and medical school at the University of North Carolina, Chapel Hill, he performed his general surgery residency at the Medical University of South Carolina. He returned to

Bryson City in 1980, and established a private practice in general surgery. In 1988, Col. Cunningham decided that practicing military medicine offered opportunities not available in private practice and entered the Air Force. "I was looking for the ability to practice medicine in very challenging and varied situations and more importantly, fulfill another dream, to serve my country."

Beginning his military career as a staff general surgeon at Maxwell Air Force Base in Alabama, Col. Cunningham found the challenges everything he had anticipated. "I had the privilege to attend several medical readiness training opportunities, including Flight Medicine," he remembered. Two years after he began his tour at Maxwell, he assumed the position of Chief of Hospital Services. During this tour, from 1988-1993, he not only expanded his skills of a general surgeon but expanded his knowledge and appreciation of the challenges of administrative medicine.

His next tour was at the Office of the Air Force Surgeon General as Surgery Consultant. "It gave me an opportunity to learn and apply critical thinking skills to different issues, as well as maturing in medical administration."

One of his memorable tours was Commander of the 59th Medical Readiness Squadron, as well as a staff general surgeon at Wilford Hall Medical Center from 1997-2000, Lackland Air Force Base, Texas. A highlight of this tour was field testing Mobile Forward Surgical Team (MFST), providing surgeons the ability to practice far-forward, life and limb saving care to patients. "I participated directly in developing cutting edge deployable



Photo by Anne Marie Saphara

medical capabilities for our forces. MFST provides a critical capability and has been proven in action in Kosovo, Afghanistan, and Iraq. It's a lifesaver," Col. Cunningham said. "Utilizing MFST concepts, we perform essential surgical procedures allowing the warrior to move up to the next level of care."

Col. Cunningham's next assignment was commander of the 11th Medical Group at Bolling Air Force Base in Washington, D.C., which introduced him to another aspect of military medicine, being accountable for an entire medical group. Under his command, the team was challenged with maintaining the health and support of the Pentagon troops during September 11 and its aftermath, being available 24 hours a day/7 days a week. "Being responsible for a command is an awesome responsibility and awesome reward in one package." ♦

**Q** *What health hazards are associated with mold exposure?*

**A** Molds can cause a wide array of adverse responses in people depending on the type and quantity that is present. In addition, since dose and human response can vary greatly, it is important to recognize that certain population subgroups may be more susceptible to mold than the general population. For example, infants and young children, those with chronic illnesses, and the elderly are at an increased risk of health effects related to mold exposure.

EPA estimates indicate as many as 100 common indoor mold types have



Photo by Anne Marie Saphara

Dr. Craig Postlewaite DVM, MPH is a contract medical consultant specializing in occupational and environmental health.

the potential for creating health problems. Generally, these molds are not a concern to anyone who is healthy. However, there are some people who are or may become sensitive to molds. For example, if you have allergies or asthma, you may experience skin rash and itching, running nose, eye irritation, cough, congestion and aggravation of asthma. Also, if you have an underlying lung disease or other chronic conditions, you may be at increased risk for infections from molds.

There are some substances produced by molds and other types of fungi that are released directly into the air, often giving off strong or unpleasant odors. In some people exposure to these substances can irritate the eyes and respiratory system and cause headaches, dizziness, fatigue, nasal irritation and nausea.

“Mycotoxins” are produced by some molds as a defense against other molds and bacteria. Although rare, and depending on exposure level, these mycotoxins may cause illness. Some symptoms may include fatigue, nausea, headaches and respiratory and eye irritation.

If you have mold in your home

(or the building in which you work), even though you may not be experiencing any health related problems, it is a good idea to eliminate the mold so you and others do not become sensitized. The best way to control indoor mold growth is to limit the amount of moisture in the living space. Sealing air and water leaks in the building's exterior, ensuring that your clothes dryer is vented to the outside, and turning on your bathroom exhaust fan when showering are effective precautions. A mechanical ventilation system, with a good pre-filter effective against molds, to provide fresh filtered air can help to reduce entry of mold spores. Using an air conditioner and/or a dehumidifier during humid weather will also help to keep relative humidity below 60 percent.

If you or your family members have health problems that you suspect are caused by exposure to mold, you should consult with your physician. ♦

For additional information on molds, please see the Web site of the Centers for Disease Control and Prevention at:

<http://www.cdc.gov/mold/pdfs/faqs.pdf>

**Q** *A family member has had their deployment extended. Is there any recommendation for what I can tell my children about this?*

**A** Parents must be honest and focus on their children's safety, security, and continuity of routine. Parents should digest the information so that they can communicate it accurately to children and tell them in a calm and reassuring manner. If the deployment will change the child's lifestyle, such as moving, living with grandparents, or changing childcare, school, or community activities, the child needs to hear of these things in advance and be able to talk openly about their concerns.

It may also be helpful to tell the child that not coming home as soon as expected is really tough for the deployed parent; and that he or she is making this sacrifice because of the important job that he or she is doing for our country and that the family is very proud of this. Also the parent might explain to the child that, as a military child, his or her own jobs during the deployment, such as taking care of siblings, helping out around the house, and doing well in school, are as real a responsibility and as important as that of the deployed parent.

For further information about helping children cope with a parent being deployed, the following Web

site is useful:

<http://www.usuhs.mil/psy/CTCChildrenCopeDuringDeployment.pdf> ♦



Photo by Anne Marie Saphara

Col. Joyce Adkins, PhD, MPH is the Defense Department's Program Manager for Operational Stress and Deployment Mental Health.

# ESSENCE Provides a Key to Detecting Infectious Disease Outbreaks

By David Steigman, staff writer

Twenty children at an Air Force base daycare center develop gastrointestinal ailments within a week. A third of the sailors aboard a Navy frigate develop high fevers a week after returning to home port. Army pharmacies start filling more prescriptions than usual for cough syrup. Could these be signs of bioterrorism or an epidemic, or are they normal variations in the patterns of illness in the Department of Defense (DoD)?

Because the growing threats of bioterrorism and epidemic diseases, such as influenza, have made early detection and countermeasures a critical requirement for public health agencies, DoD has developed an improved version of Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE) to help detect and monitor outbreaks of infectious diseases and other medical conditions throughout its global constituency. ESSENCE receives and analyzes electronic data for approximately 90,000 daily outpatient and emergency department visits in DoD health care facilities worldwide. The data is downloaded in near real-time from more than 400 military treatment facilities to AHLTA, the electronic medical record system. ESSENCE sifts through the data for infectious diseases occurring in patterns and trends that might need further investigation.

The newest version of ESSENCE includes improved analytic capabilities and automated e-mail alerts in case of possible disease outbreaks. "This extensive data set provides us with significant information on symptoms and allows us to detect outbreaks of infectious disease much sooner than ever before," Deputy Assistant Secretary of Defense for Force Health Protection & Readiness



U.S. Navy Photographer

(FHP&R) Ellen Embrey told a House Homeland Security Committee hearing on May 11, 2006.

Military public health specialists monitor the information in ESSENCE at several levels, including local installations, regional authorities, the individual armed services and DoD-wide. Current data are compared with historical information to determine whether selected conditions are occurring more often than expected. Patterns suggesting a disease outbreak might include numbers and geographic distribution of cases that are significantly different from historical norms.

If the incidence of a medical condition appears to be excessive, then local public health officials are alerted so they can investigate and determine whether further action is required. If necessary, DoD public health officials can then notify their counterparts at the Centers for Disease Control and Prevention (CDC) and the Department of Homeland Security (DHS). "The benefit ESSENCE brings is that of enhanced medical situational awareness. Now public health leaders can centrally monitor the effectiveness of any actions taken to control an ongoing infectious disease outbreak," said Col Kenneth Cox, M.D., FHP&R.

Improved awareness can help

military leaders and clinicians make the decisions required to maintain a healthy military force and dependent population. "This detection capability provides the Military Health System with the information needed to facilitate informed decision-making and enable timely response, including the allocation of any needed medical assistance, resources and supplies to control disease outbreaks and render timely medical care to those already affected," said Embrey.

ESSENCE uses sophisticated statistical analytical methods to calculate expected rates of related illnesses and medical conditions in the DoD population. These calculations are adjusted by such considerations as the frequency of specific conditions during the preceding several weeks, the effects of holidays and weekends on the numbers of patient visits, and the geographic clustering of cases by ZIP code. ESSENCE also uses standardized disease code numbers to organize patients' diagnoses into the groups of related illnesses and conditions of most interest. The geographic information system component permits detection and description of clusters of disease in space and time.

When a patient is treated at a DoD medical facility, TRICARE

computers generate a unique patient identification number (PIN) that allows the patient's name, birth date, Social Security number, and other identifying information to be removed from ESSENCE data files. These PIN numbers are used in ESSENCE to distinguish patients from one another while preserving individual patients' privacy. This protection is important so that military analysts can use the data in AHLTA to examine illness trends and specific diagnoses while protecting patients' medical confidentiality. ESSENCE does allow local military public health officials, with a supervisor's approval, to access the identity of patients if necessary, to deal with localized medical conditions. "This role-based access to protected health information in ESSENCE helps the local public health staff take prompt action to stop an outbreak in its tracks," said Cox.

The Walter Reed Army Institute of Research originally developed ESSENCE in 1999 as a pilot project to determine the feasibility of protecting the Washington D.C. area military population by monitoring information from local military medical treatment facilities. Several

civilian health departments around the country have since adopted ESSENCE computer programs for monitoring related illnesses among patients at civilian health care facilities.

In January 2005, DoD began to use ESSENCE IV, an improved version developed following research by the Johns Hopkins University Applied Physics Laboratory. ESSENCE IV included software to improve the system's analytic capabilities and refined the definitions for the medical conditions of most concern, namely botulism; fever as a general symptom or certain specific illnesses for which fever is usual; gastrointestinal illness; hemorrhagic illness; neurological disorders; skin rash; respiratory or influenza-like illness; and shock or coma. ESSENCE IV also added military pharmacy data to the Standardized Ambulatory Data Record (SADR) data already being collected.

The newest version of ESSENCE, developed by TRICARE's Executive Information Decision Support (EIDS) program office, supersedes ESSENCE IV while preserving all of the original features and adding other enhancements to further improve its usefulness. These enhancements

include automatic searches and alerts to users, customized alerts and patient-level drill-down detail. "The improvements not only are part of the continuing effort by military clinicians to support our Service members and their families, but they are also helping give ESSENCE a vital role in protecting our military facilities and are a critical part of the U.S. national public health surveillance system," said Cox.

As ESSENCE has evolved into a worldwide DoD surveillance tool, it has proven to be a valuable addition to the continuous efforts to detect and prevent infectious diseases and hazardous medical conditions in the DoD beneficiary population. ♦

**The Force Health Protection & Readiness Organizational Structure**



## A New Logo for Force Health Protection

Along with a new organization, the restructured office of Force Health Protection & Readiness has a new logo to match its mission.

The new logo features the caduceus, two snakes entwined around a winged staff that is the symbol of medicine and the healing arts – and variants of which form part of the logos of the medical departments of the armed forces. The caduceus comes from the Rod of Asclepius, the Greek god of healing.

The shield behind the caduceus symbolizes the office's mission to protect and defend the health and well being of Service members and their families.

Starting in the upper left hand quadrant, the three boxed symbols include an aircraft, representing the Air Force; a tank, symbolizing the Army; and a ship, for the Navy and the Marine Corps.

The solitary figure in the lower left hand quadrant is a U.S. Service member, representing our ultimate audience of Service members, civil servants and contractors—along with their families, military leadership and the health care providers who heal them, to whom the office of Force Health Protection and Readiness ultimately directs its efforts and performs its mission.



# DoD Creates Sexual Assault Prevention Policy

By Kristi S. Beck MA, FHP&R staff

The Department of defense (DoD) takes great pride in the fact that the United States military is the best-trained and best-equipped fighting force in the history of the world. Military officials do everything possible to increase readiness and limit harm on the battlefield. And today, the U.S. military is working to make sure that the men and women of the military are safe and prepared when it comes to the issue of reporting a sexual assault.

But, DoD officials are quick to point out that their work to address sexual assault in the ranks is more than just an issue of troop preparedness.

“Sexual assault in the military is not just a readiness issue, it’s a human dignity issue,” said Roger Kaplan, director of communications at the Sexual Assault Prevention and Response Office, the DoD’s single point of accountability on sexual assault policy.

The Response Office’s primary mission is to develop and implement a comprehensive department-wide sexual assault policy. The creation of this policy was spurred on by a number of reported and alleged sexual assaults in the U.S. military – both CONUS and OCONUS – and increased scrutiny of the issue by the media, civilian groups and Congress.

In February 2004, Secretary of Defense Donald H. Rumsfeld directed Dr. David S. C. Chu, under

secretary of defense for personnel and readiness, to review the way the Defense Department handles the treatment and care for victims of sexual assault in the military services and how the services provided care in combat theaters.

The Department of Defense quickly assembled the Care for Victims of Sexual Assault Task Force, led by Ellen P. Embrey, deputy assistant secretary of defense for force health, protection, and readiness. The task force traveled into combat theaters as part of their study dealing with sexual assaults in a combat environment. The task force released a series of recommendations in April 2004.

One of the recommendations emphasized the need to establish a single point of accountability for sexual assault policy within DoD. This led to the establishment of the Joint Task Force for Sexual Assault Prevention and Response, and the naming of Air Force Brig. Gen. K.C. McClain as its commander in October 2004.

The Task Force focused its initial efforts on developing a new department-wide sexual assault policy that incorporated recommendations from the Task Force Report on Care for Victims of Sexual Assault and legislative requirements established in the Defense Authorization Act for Fiscal Year 2005.

In January 2005, DoD presented to Congress a comprehensive policy on prevention and response to sexual assaults. The policy provides a foundation for the department to improve prevention of sexual assault, significantly enhance support to victims, and increase reporting

## Sexual assault includes:

- Rape
- Nonconsensual sodomy (oral or anal sex)
- Indecent assault (unwanted, inappropriate sexual contact or fondling), or
- Attempts to commit these acts

and accountability.

The Sexual Assault Prevention and Response Office replaced the task force in October 2005. It provides oversight to ensure that each of the service’s programs complies with Defense policy. “The military is a team. Successful teams are based on people who rely on each other, who can trust each other. An assault on one is an assault on the team,” said Kaplan.

The most successful approach is one that capitalizes on the military’s “team” concept to train service members what is and is not acceptable behavior. “To achieve this goal we have vigorously implemented a comprehensive sexual assault prevention and response program,” McClain said in an interview with American Forces Press Service and the Pentagon Channel in February.

The education and training portion of the program is being applied to everyone in DoD so that the services complete baseline training of their members. This education effort is ongoing. The role of the response office is primarily policy oriented. The office issues guidelines and procedures for sexual assault prevention and response programs within the military and each service implements and trains their deployable units and commanders. Sexual assault prevention and response training is incorporated in all professional military education curriculums as well as in pre-deployment and pre-command training.



Stock photo

“Everyone in the Department of Defense has a role in prevention and response -- regardless of rank, position, duty title or assignment,” Kaplan said. “That role is to understand what behavior constitutes sexual assault, and to send a message to co-workers and friends that those behaviors are unacceptable and will not be tolerated,” he added.

“Any unit that is deployed, receives training on local customs, moral values, and things that might get someone in trouble in the theater,” said Kaplan. Each of those units have a sexual assault response coordinator assigned to them that is responsible for reporting any sexual assaults while that unit is in theater.

Pre-command training consists of classes before commanders lead units. Each commander goes through a curriculum of courses that provide tools to help them. Due to the traumatic nature of sexual assault and the complexity of the issues, commanders receive ongoing training to help guide their actions and decisions related to the needs of a sexual assault victim, rights of the accused, as well as actions that assist their organization.

The DoD’s sexual assault prevention and response program provides baseline training for all military personnel and is designed to educate

individuals throughout their careers to include professional military education programs. This provides ample opportunity for service members to discuss what constitutes sexual assault and to address their roles in preventing and responding to sexual assault.

### Response Group Training

The Defense Department created a framework for an integrated sexual assault response capability worldwide with the intent of providing everyone everywhere equal access to the same support systems and response personnel. In addition, the department directs the use of a case management approach in the handling of sexual assault cases and believes this approach provides victims with a greater level of personal attention and enhances system accountability of the care provided to victims of sexual assault.

A baseline of essential training tasks has been established for key personnel designated to help sexual assault victims. These key personnel include: sexual assault response coordinators; victim advocates, health care providers; law enforcement and criminal investigators; legal officers; and chaplains. Response group training focuses on: timeliness of care; victim advocate assistance; reporting guidelines and procedures; sensitivity to victims; collection of forensic

### Where can I go for more information?

**United States Department of Defense Sexual Prevention and Response Office:**  
<http://www.sapr.mil/>

**Hotline number -**

Contact Military One Source 24-hours-a-day for restricted or unrestricted reporting, and information about local points of contact, and sexual assault services.

**Stateside:** 1-800-342-9647

**Overseas:** 00-800-3429-6477

**Overseas collect:** 1-484-530-5908

Contact a sexual assault response coordinator or victim advocate  
 For service specific information, visit these sites:

**Army:** <http://www.sexualassault.army.mil/>

**Air Force:** <http://www.militaryonesource.com/skins/MOS/home.aspx>

**Marines:** <http://www.usmc-mccs.org/sapro/index.cfm>

**Navy:** <http://www.ffsp.navy.mil/savi/html/savi.html>

**Coast Guard:** [http://www.uscg.mil/hq/g-w/g-wk/wkw/eap/rape\\_sexual\\_assault.htm](http://www.uscg.mil/hq/g-w/g-wk/wkw/eap/rape_sexual_assault.htm)

**National Guard:** <http://www.ngb.army.mil/staff/j1/sapr/>

evidence; and availability of mental health and other support services.

If sexually assaulted, what do you do? Where do you go? Who do you talk to?

While the Department of Defense prefers complete reporting of sexual assaults to activate both victims’ services and law enforcement actions, it recognizes that some victims desire only medical and support services and no command or law enforcement involvement. The Department believes its first priority is for victims to be protected, treated with dignity and respect, and to receive the medical treatment, care and counseling that they deserve. Under Defense confidentiality policy, military victims of sexual assault have two reporting options- restricted reporting and unrestricted reporting. Military retirees, family members, and other civilian victims currently may use only unrestricted reporting. ♦

### If You Have Been Assaulted

If you have been sexually assaulted or think you have been:

- Go to a safe location away from the attacker.
- Contact your local Sexual Assault Response Coordinator (SARC), Victim Advocate (VA) or healthcare provider.
- Seek medical care as soon as possible. Even if you do not have any visible physical injuries, you may be at risk of becoming pregnant or acquiring a sexually transmitted disease.
  - Ask the healthcare provider to conduct a sexual assault forensic examination (SAFE) to preserve forensic evidence.
  - If you suspect you had been drugged, request that a urine sample be collected.
- Preserve all evidence of the assault. Do not bathe, wash your hands or brush your teeth. Do not clean or straighten up the crime scene.
- Write down, tape or record by any other means all the details you can recall about the assault and your assailant.

*Source: U.S. DoD Sexual Prevention and Response Office*

# Walter Reed Medical Center: A Mother's Story

*The mother of a wounded warrior shares her son's story of trauma and triumph*

Amid all the news reports of the deplorable conditions at the Walter Reed Army Medical Center, I would like to share my family's experience.

Aug. 23, 2006, my son, SGT Thomas (T.J.) Slavin was severely injured in Iraq. I received a phone call from his home base in Fort Hood, Texas, informing me T.J. had been severely wounded by an Improvised Explosive Device (IED) and was in serious condition. He was airlifted by helicopter to the 10th Combat Support Hospital (CSH) in Baghdad for emergency surgery.

T.J. was stabilized and flown to Landstuhl, Germany. By Sunday night he was on his way home.

We were introduced to Ms. Spencer of the Family Assistance Office at Walter Reed, and found

her assistance, care, compassion and dedication to our soldiers and their families to be amazing. Ms. Spencer escorted Tom and me to the ICU to see our son. Absolutely nothing can prepare a parent for that long walk to the ICU to see their injured son for the first time.

T.J. was a sight; with all the hardware sticking out of his leg; all the cuts and abrasions and looking so hurt and helpless.

That evening we met with his team of orthopedic surgeons. They explained the extent of the injury to his leg and the plan to ensure T.J. the use of his leg. They were a great team.

We also met with his team of internal medicine doctors. They explained the injuries to his kidneys and informed us of their course

of action. Next was T.J.'s team of neurosurgeons. We had no idea the extent of his back injury. T.J.'s lumbar spine was crushed and he had no feeling from his hips down.

The chief neurosurgeon explained they would go in through T.J.'s side and remove all the bone fragments in his spinal cord, and replace his lumbar spine with a steel cage filled with a manmade bone material. It was extremely delicate surgery which would last 12 hours.

Throughout the surgery, a nurse would periodically call in to us in the waiting room and provide a progress report. Once the surgery was done, the team of neurosurgeons walked into the waiting room all smiles and gave us "thumbs up"!

Thursday, T.J.'s third leg surgery was performed; manmade bone



Walter Reed Army Medical Center, Washington, D.C.

Photo by Michael E. Dukes

material pieced his bones back together and the hardware was removed. A steel rod was placed in between the bones and screwed to his knee and ankle. Four major surgeries in seven days.

T.J. was moved from ICU to Ward 57 and the daily physical/occupational therapies began. Some days it was very difficult for me to watch; sometimes I just had to leave the room.

Carla, the therapist, knew I was having a tough time and told me to envision him six months down the road - walking! The therapist staff kept the guys' spirits up with good-natured "trash talking" of hometown sports teams. They were more than therapists; they were our friends. They treated T.J., Tom and I with compassion, respect and gave their all to our son. Due to their expert knowledge and dedication, T.J. is walking today.

Nancy gave T.J. occupational therapy every day. Typical mother, I worried about T.J.'s laundry. Nancy said, "No problem, we'll do it as part of his occupational therapy." T.J. would be staying at the Mologne House when he became an outpatient. Nancy made sure T.J. was able to take care of himself once he became an outpatient.

T.J.'s psychologist, Mr. Fineman, met and talked with T.J. concerning any issues he might have. Major Ann Hall was T.J.'s nutritionist and visited

T.J. daily. She assured him he would get his strength and body back. Ann was right on the money.

T.J. wasn't eating and didn't have much of an appetite, he finally asked for a bowl of Rice Krispies. It was getting late. I was off to the cafeteria, hoping it was still open. The cafeteria was just about to close; I yelled, "Could I please buy a box of cereal?" I explained the situation to the head of the cafeteria. His answer to me: "We care for our warriors." He filled a bag with several boxes of cereal and tossed in milk, fresh fruit and yogurts. When I opened my wallet to pay, he laughed. Warriors don't pay for food at Walter Reed. He said if there was anything T.J. wanted; all we had to do was ask.

T.J.'s unit suffered many casualties. The driver of the HMMWV in which TJ had been traveling was killed in the blast. E-mail was the only communication with his unit in Iraq. There is a computer room on every floor at the hospital but due to T.J.'s injuries, he was not able to sit at a computer desk. I explained to Ms. Spencer how important it was that T.J. be able to "talk" with his buddies. Soon, a laptop was brought to his bedside. Now he could communicate with his buddies in Iraq, and with friends and family. It was a giant step forward in his recovery.

The day T.J. was transferring to the Mologne House, neither his father nor I were with him. Nancy and Ms. Spencer packed up his hospital room, rode the shuttle with him to the Mologne House, unpacked and put away his belongings, and got him settled in.



Photo by Rudi Williams

Mologne House, located on the grounds of Walter Reed, is where Sgt. Slavin lived during the outpatient phase of his treatment.

The one person T.J. respected and cared for the most was Capt. Anderson. Capt. Anderson was T.J.'s doctor in charge of his overall care. I am very thankful for his compassion, devotion and dedication to T.J.'s well being.

After six months at Walter Reed, T.J. requested a transfer to Darnall Army Medical Center at Fort Hood, Texas. His Unit was back from Iraq, and T.J. wanted to be with them. He is receiving wonderful medical care at Darnall.

We will be forever grateful to the doctors, nurses, therapists, cafeteria workers, volunteers, the Family Assistance personnel and Mologne House personnel at Walter Reed Army Medical Center for their exemplary skills, compassion, dedication and devotion to our son.

They provided "Warrior Care," as the hospital's motto says.

T.J. hopes to complete his physical therapy and be discharged in the fall. He is a college graduate and plans to pursue his master's degree. He will have some physical limitations, but is looking forward to a very bright, wonderful future. ♦

*Ms. Carol J. Slavin is the mother of SGT Thomas (T.J.) Slavin and has approved the publication of her letter, excerpted above.*



# Pandemic Flu: Myths, Realities, Prevention Perspectives for DoD Personnel

By Lt. Col. Wayne Hachey DO, MPH, USA

Department of Defense (DoD) personnel may perceive that “pandemic influenza” is an over-used phrase; yet, it is apparent many people do not completely understand what it is or how to prepare for it. On average, pandemics occur about every 30-40 years. The last influenza pandemic occurred in 1968 and medical experts believe one may take place in the near future. An “influenza pandemic” is a global outbreak of influenza or flu that occurs when a new flu virus that has never been seen before, appears in people, and spreads easily from person to person.

During the 20th Century, new influenza viruses caused three pandemics. The most severe was the 1918-1919 “Spanish Flu” which caused more than 500,000 deaths in the U.S. and at least 50 million deaths worldwide. Nearly half of those who died were young, healthy adults. “Avian influenza” or “bird flu” has been mentioned in close association with “pandemic flu” but they are not one and the same. Avian flu is an outbreak of flu commonly found in birds. While there is a low pathogenic form of avian flu strain H5N1 circulating in this country in the poultry and wild bird population, the highly pathogenic strain is the

virus considered to be the most likely to cause the next flu pandemic.

The first documented human cases of H5N1 bird flu occurred in 1997 when six people were infected and died in Hong Kong during a large outbreak of influenza among poultry. Beginning in late 2003, outbreaks among poultry were reported throughout Southeast Asia and have since extended into Asia, Africa and Europe. Scattered human cases of H5N1 bird flu have occurred among people who had direct contact with sick poultry, ate undercooked poultry infected with the virus or had prolonged close contact with an individual with bird flu. Despite hundreds of millions of birds that have died from avian influenza, very few people have become ill. The overwhelming majority of those who have caught avian influenza have had contact with sick poultry. Catching bird flu from another person who is infected with H5N1 is extremely rare.

The DoD plan for responding to pandemic flu includes efforts to preserve military mission capabilities and readiness, prevent infections, save lives, and reduce human suffering for all service members and their families. DoD is currently collabo-

Stock photo

rating with other U.S. government agencies to ensure an effective, coordinated approach to the potential threat pandemic flu poses. Within the National Strategy for Pandemic Influenza Implementation Plan, DoD is fully integrated with other federal agencies in the overall national response to a pandemic. DoD has a wide array of unique capabilities to defend the nation and provide support during times of need to protect public health and the economy at home and abroad.

## As it Relates to Seasonal Flu

Seasonal flu occurs each winter and is caused by human flu viruses that are often similar to those that circulated among people during previous flu seasons. Seasonal flu usually affects about 10-15 percent of the population. Deaths caused by seasonal flu generally occur in elderly and other high-risk groups such as the very young and those with some pre-existing medical conditions. About 36,000 Americans die each year from seasonal flu.

In contrast, flu pandemics occur rarely and are caused by new flu viruses that have not circulated among people before. These viruses can affect all age groups, but past experience demonstrates that high death rates and serious illness can occur in age groups usually not severely affected by seasonal influenza infections. Flu has a short incubation period, meaning most people will feel symptoms within about three days of exposure. A person might spread the virus to others for up to two days before he or she begins to feel sick. Once symptoms (fever, muscle aches, cough, etc.) appear, adults may continue to spread the virus to others for about five days (longer for children).

## Prevention of Pandemic Flu

The best protection against any flu virus is immunization. Seasonal flu



vaccines are manufactured before the flu season begins based on the strain of virus that is most likely to infect the general population during the next flu season. As such, the seasonal flu vaccine offers varied levels of protection based on how good a match the vaccine is with the viral strain causing that year's flu. We do not know which viral strain will cause the next pandemic. A new vaccine will need to be manufactured, and will not begin to be available for four to six months after a pandemic begins. Both the Departments of Defense and Health and Human Services are stockpiling limited amounts of a vaccine effective against the current strain of H5N1 that may provide some protection before a pandemic-specific H5N1 flu vaccine can be produced.

The U.S. Food and Drug Administration has approved two different types of influenza antiviral medications for the treatment and/or prevention of pandemic flu. One of these types is considered to be the most effective against the current bird flu. Although supplies of these drugs are limited, DoD is making every effort to increase our stockpile. The DoD's top priority for the use of both vaccine or antiviral medications is for our Service members, so that we may continue to preserve the DoD's ability to carry out our missions of national defense and domestic support.

Current preparations to effectively prevent or control pandemic flu include increasing our surveillance and monitoring for the appearance of new flu viruses, stockpiling antiviral drugs and vaccine, and improving communications about this threat, to reduce the risks in our beneficiaries.

Military Medical Treatment Facilities have response plans for public health emergencies, including pandemic flu, which are coordinated with local health departments. Additionally, at each installation, Public Health Emergency Officers are key figures in emergency response plans and serve as a link between the installation and local public health authorities.

Prevention and protection measures that apply to the general public also apply to DoD military and civilian personnel. The most effective prevention is at the individual level. Actions taken in the household can have a profound impact on the risk to individuals and the community. Close contact, especially indoors where ventilation is poor, with an infected person who is coughing or sneezing can easily result in the spread of flu virus. Similarly, touching surfaces contaminated by infected respiratory droplets can spread the virus if your hands then contact your mouth, nose or eyes. Social distancing, that is staying away from crowds, can be an effective means to lower your, and your family's, risk. Some examples of social distancing and other prevention measures that should be followed include:

If you feel sick, stay at home and away from others. You should also stay home if someone in your household is sick with the flu.

When out in your community, if you can, stay away from people who are sick. Most droplets will not travel more than three feet after a person sneezes. Avoid crowds when the flu is in your neighborhood.

If schools are closed make sure that your children stay at home and not gather in large groups.

Cover your mouth and nose when coughing or sneezing, use a tissue and dispose of it in a wastebasket; if you do not have a tissue, cough or sneeze into your upper sleeve or in the inner part of your elbow, not your hands.

Wash hands frequently, especially following coughing or sneezing and avoid touching your eyes, nose or mouth.

Avoid smoking. Smoking interferes with the body's natural respiratory abilities to protect itself against impurities, including viruses; plus the contact of one's fingers with their lips may increase transmission of the virus if the fingers become contaminated with it.

Although not effective against pandemic influenza, as many as

possible should be immunized with seasonal influenza vaccine beginning with the high risk groups as identified by CDC.

As an added disease-prevention measure, persons 65 years of age or older, should consult with a healthcare provider to be immunized with pneumococcal (pneumonia) vaccine, as should people with chronic or other special risk factors.

Essential services may be limited during a pandemic. Just as for any natural disaster, families should have a supply of food and water in case grocery stores and water treatment plants close. People who require long term medications should get an extra supply should pharmacies close or drugs are temporarily unavailable.

Communities should develop a cooperative network to decrease the need for large gatherings but still provide services to those with special needs. ♦

#### RELEVANT WEB SITES

U.S. Government site on Pandemic Influenza:  
<http://pandemicflu.gov>

Avian Flu and Pandemic Flu Fact Sheets:  
<http://deploymenthealthlibrary.fhp.osd.mil/products/dhsd/AvianFlu.pdf>

Force Health Protection and Readiness  
<http://fhp.osd.mil>

DoD Deployment Health Clinical Center (DHCC):  
<http://www.pdhealth.mil>

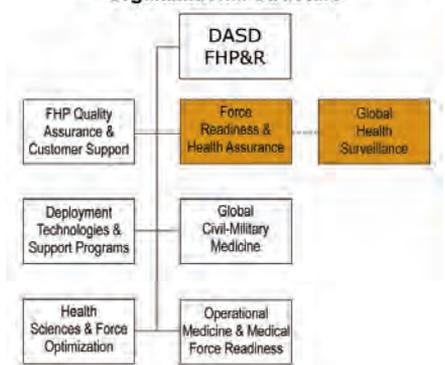
Air Force Institute for Operational Health:  
<http://www.brooks.af.mil/afioh>

Navy Environmental Health Center:  
<http://www.nehc.med.navy.mil>

U.S. Army Center for Health Promotion and Preventive Medicine:  
<http://chppm-www.apgea.army.mil>

Brief: "PR in a Pandemic: Planning for Communications During an Avian Influenza Outbreak"  
[http://event.on24.com/event/26042/1/documents/slidepdf/mps\\_telesem\\_083106\\_final\\_ppt.pdf](http://event.on24.com/event/26042/1/documents/slidepdf/mps_telesem_083106_final_ppt.pdf)

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mally invasive surgeries on stomachs, kidneys and spleens. “None are as complicated as brain or heart surgeries, but every time he conducts a successful surgery, he is reinforcing the point that telesurgery is possible,” Moses said.

## Challenges

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.”

To show how their work is progressing, TATRC conducted a live robotic telesurgery over the Internet at a conference in April 2005. In Denver, a surgeon with the master controls operated on two pig patients in Sunnyvale, Calif., where the slave controls were overseen by a senior resident. To overcome the latency and jitter, engineers refined the electrical signal for the last 40 feet at each end. “Whatever latency remained was in a tolerable limit for the surgeon to accommodate that minimal delay between seeing a television image showing him what was happening in Sunnyvale versus what his hands were doing in Denver,” Moses said. “That demonstration made the case for us that telesurgery was a resource for us in healthcare as we go forward.”

In addition to latency and jitter, a robotic telesurgery system would face other practical limitations as well, said Col. John Holcomb, a trauma surgeon who has deployed

seven times to Operation Iraqi Freedom. “The lights still go out in the ORs in Iraq, and communication is exquisitely difficult,” he said. Moses and his partners are also taking on the robots’ design. Commercial systems, like the one Schenkman uses at WRAMC, in many ways violate the military’s mantra of smaller, lighter and less power for items that go in the field. The system at WRAMC, is “heavy, large, bulky and takes a lot of space up and is very resource intensive,” Schenkman said. “It takes a lot of expertise to keep it up and maintain it. If it broke it would be hard to get the repairman to come and fix it out there (on the battlefield).”

The initiative to make surgical robots smaller has already begun, in part because NASA is exploring telesurgery for its use in remote locations, like space. In 2005, an astronaut in NASA’s Aquarius Underwater Laboratory in the Gulf of Mexico was telementored—essentially, coached via video and audio links—by Anvari in the art of suturing and other surgical tasks. This year, the Aquarius project will take another step forward as Anvari in Canada performs a robotic surgery inside the Aquarius supported by another surgeon inside the Aquarius laboratory. For that to occur, however, the robot had to be scaled down quite a bit. “We had to develop a smaller, more portable and efficient robotic slave system, referred to as the Army Arm, that could be used in this remote setting and could be linked electronically via the Internet with Dr. Anvari’s master console in Canada,” Moses said.

## Telementoring, Telecollaborations

At the American Telemedicine Association conference this month, Moses said a “true telecollaboration” will take place where multiple surgeons will operate the instruments. “We’re going to connect additional sites to the robotic system so the patient may be in one location, a surgery team in one location and another surgery team in a third loca-

tion that won’t just telementor but can actually interact with the instruments collaboratively and operate on the pig together,” Moses said. “We’ve had demonstrations where we watched surgeons before. What is different about the plan that we have for this spring is the true collaborative nature, rather than just telementoring or telewatching.”

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.”

## Patient Acceptance

Whether patients will accept robotic telesurgery remains to be seen. Schenkman said he wouldn’t volunteer to be the first patient. Moses, who has had two cataract surgeries, said he would trust his ophthalmologist to perform that telesurgery robotically.

“It’s a matter of confidence in the surgeon,” he said. “If you’re a casualty on a battlefield, you don’t ask the question. Whoever you’ve got is fine.” ♦

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