

# *September 11: USU Answers the Call*

Preparedness has become one of the nation's hot topics in the wake of the September 11 attacks. As the country's leaders search for ways to bolster homeland defense and ensure an organized response to potential threats, USU has already proven that its curriculum creates graduates who are prepared to tackle any kind of emergency at home or abroad.

USU graduates, faculty and students were among the first responders to New York and Washington, as well as the Pennsylvania crash site. Their extensive training and experience enabled them to react and mobilize quickly, many of them within seconds of the Pentagon attack.

Programs at the University combine classic medical education with military-relevant examples and training, as well as real-world information garnered from the first-hand experience of faculty who, themselves, have operated in adverse environments. The result is a cadre of graduates who are prepared for nearly any disaster conceivable — something they have proven time and again in the aftermath of September 11.



## WORLD TRADE CENTER TRIAGE

### Choosing to Serve

USU class of 1995 alumna **Lt. Cmdr. Christine Casey** was on duty at her new assignment at the Centers for Disease Control and Prevention in Atlanta when news of the attack on the World Trade Center reached her. Casey, a physician in the United States Public Health Service, is the project officer for the Clinical Immunization Safety Assessment Network. She is also a member of a PHS Disaster Medical Assistance Team (DMAT), trained to provide emergency medical care during a disaster or other catastrophic event.

As another plane rammed into the New York skyscrapers, followed by a similar attack on the Pentagon and another, foiled attempt that resulted in a crash in the Pennsylvania countryside, the events of the day took on catastrophic proportions. DMAT members were asked to volunteer their expertise to assist with the rescue and recovery efforts in lower Manhattan. Casey found herself faced with having to make a difficult decision on whether or not to go.

"It was a hard decision to go," Casey said. "We had a choice. When you're told to go, it's much easier than when you can volunteer. You think of your mortality and your babies in a situation like this."

The decision was made easier because of support from her husband, Sean. "He said, 'no, Chris. This is what USU trained you for. We've spent years seeing families get deployed and separated and put in harm's way that



*Lt. Cmdr. Christine Casey helps set up clinic in former delicatessen near World Trade Center.*

haven't had a choice. You have a choice, but there is no choice. We're a service family and so you go."

Casey made her way to New York City, where she and other members of the DMAT were housed in a hotel in midtown Manhattan. They were bussed to the World Trade Center site with a police escort, residents lining the streets with signs reading "Thank You." "It was like a bad movie," Casey said. "The area was lit up like fireworks, with smoke. It was very eerie...horribly indescribable. You could stand in front and look at it, but you still couldn't comprehend it. There was no debris in terms of sharp glass, computers, desks. It was all powder with steel girders. It was war torn. They had to put up netting on the buildings around us to keep stuff from falling. We were evacuated numerous times."

*"I arrived at Ground Zero as a productive member of the team – the learning curve was not as steep as it would have been without the USU curriculum..... That is what sets USU apart."  
– Lt. Cmdr. Christine Casey, World Trade Center Clinic*

As so many others who have been to the scene have described it, Casey said there was an acrid smell in the air, of burning jet fuel mixed with the baby powder-fine, pulverized concrete that was all around. Firemen, policemen, search and rescue teams with dogs, veterinarians, and even dentists were working furiously. There was a lab coat-clad woman in a pink car with a sign pronouncing herself "psychiatrist." Fires continued to burn throughout each day, welders' sparks from cuts made through steel beams igniting debris. Water was everywhere. More than 100 floors of office paperwork littered the ground, while the trees nearby held venetian blinds and other scattered remains resulting from the buildings' collapse. The potential threat of a phosgene gas leak caused by freon from tanks in the basement mixing with the water raised concerns and made Casey thankful for her USU training in identifying chemical agents.

Five medical treatment sites were set up for health care teams, three of which were led by USU graduates including Casey, **Lt. Cmdr. Rochelle Nolte ('96)**, and **Capt. Art French ('84)**. One was a distant site, away from ground zero. The other four were established in a square, where each of the trade center towers had been. Casey and her team were situated in what, previous to the attack, had been a delicatessen. Supplies were plentiful; donations poured in from around the country. The community provided them with free phone access,



*Lt. Cmdr. Rochelle Nolte  
World Trade Center Clinic*



*Capt. Art French  
World Trade Center Clinic*



coffee, food, laundry service, even front row tickets to “Phantom of the Opera” on Broadway, which Casey missed. “The city was amazing,” she said. “Everyone was friendly, nice, and very welcoming. Their generosity was unbelievable.”

Casey’s job throughout her 12-day assignment was to care for the rescue workers on “the pile,” as the mound of rubble from the collapsed buildings was dubbed. Patients included law enforcement officials, firefighters, sanitation workers, telephone repair crews, Red Cross workers and anyone else helping out on the scene. Outfitted in camouflage uniforms, respirators, goggles, and helmets decorated with “I Love New York” decals, the medical team treated eye injuries, reactive airway diseases caused by the dust, viral infections, foot injuries (including blisters caused by molten steel burning through work boots), chemical burns, chest pains, and hypertension. Psychiatric debriefings were done while checking feet or suturing cuts to save time. “You really had to expedite treatment in the context of what you were doing,” said Casey. “The rescue workers were just like [military] troops. You couldn’t get them off the pile. You had to understand the mentality of ‘get me back to the front.’”

Casey is glad to have made the decision to deploy to New York. “It was such a privilege to care for the rescue workers,” she said. “It was unbelievable. That’s why I did military medicine. I like serving alongside people who are service-oriented, like-minded. They were truly amazing.”

**Lt. Cmdr. Susan Lippold ('94)** was in Albuquerque, New Mexico, on Sept. 11, for Office of Foreign Disaster



*Lt. Cmdr. Susan Lippold  
World Trade Center Clinic*

images of the World Trade Center being hit,” Lippold said.

The following day, Lippold received an e-mail message broadcast to all members of the PHS Commissioned Corps Readiness Force asking for volunteers of certain medical specialties. She let them know she was available. Before Lippold could leave New Mexico, she received word from her former classmate and best friend at USU, Maj. Pat Pharmsangngam Hogan, that Hogan’s husband of two years, Cole, was missing. Cole Hogan was a major in the Army Special Forces and was assigned to the Pentagon.

“Cole was a wonderful person and a soldier’s soldier,” said Lippold. “This devastating news, plus the fact that the e-mail made it sound as though physicians would be deployed to Bethesda, made me all the more eager to be near Pat and to help in whatever way I could. This was a time, though, when everyone in the country wanted to contribute in some way.” She returned to Chicago and continued to let those calling for CCRF volunteers know that she was available.

On Sept. 21, Lippold got the call to deploy two days later to New York City, to the World Trade Center site. She would be there for two weeks and

Assistance training; her regular assignment is with the Health Resources and Services Administration in Chicago. “It was a surreal experience stepping out of the elevator on our second day of class and seeing live broadcast

would serve as the “Medical Officer in the Field” – the supervising physician at what was being termed “ground zero.” Lippold arrived and took in the scene. “The two things that struck me most when first seeing the site were the magnitude and somberness. It was apocalyptic but the extent of it could not be fathomed until seen,” she said.

Once there, she shadowed her predecessor to learn the lay of the land. He, along with USU Master of Public Health program graduate, **Col. Bob Gum**, who was serving as the chief medical officer in charge at the site, had been deployed Sept. 11, and started working at ground zero three days later. By the time Lippold had arrived, five clinics had been established and four DMAT teams were rotating through the area. The mission was to provide medical care for the rescue and recovery workers on scene, encompassing everyone within the designated perimeter.

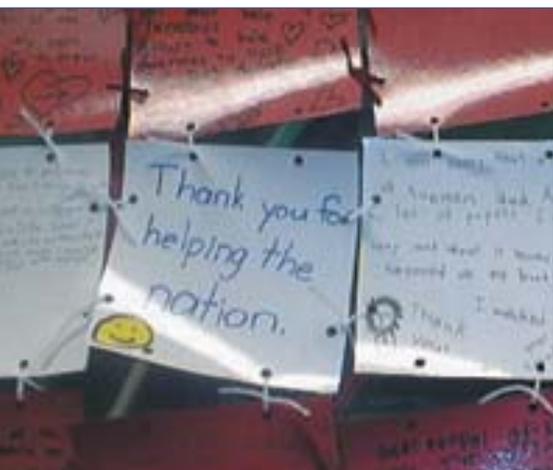
*“It was an honor to go, and it was a duty that mustered every skill I have ever developed or hoped to develop.” – Lt. Cmdr. Susan Lippold, World Trade Center Clinic*

Daily meetings were held with members of the New York Fire Department, emergency medical services, local mortuary, hospitals, Public Health Service and New York Department of Health to discuss events of the day before and to prioritize tasks. “Everyone was at ground zero for the same reason,” she said. “And everyone that went to the site knew the entire nation was cheering us on. On the first day I picked up a hamburger at one of the feeding sites, and in the bag was a handwritten note from a child.



In every bag there were either handwritten notes or drawings from children across the United States.”

During the time she spent at the World Trade Center site, Lippold said the most common medical visits were eye injuries, headaches, lung injuries, foot blisters, sprains and strains. “From Sept. 14 through Oct. 4, 6,463 patients were seen in our clinics,” said Lippold. “If one excludes visits for medical supplies, at least one-third to one-half of the cases treated were truly medical in nature. This meant that not only was time not lost with workers having to seek medical attention outside of the perimeter but that, more importantly, workers who otherwise would not have sought medical attention were treated and able to return safely to work.”



In her last week there, Lippold said the number of patient visits peaked at around 500 per day, but that number tapered off as things on the pile changed. Operations switched to using more heavy equipment and fewer volunteer workers, but it did not lessen the impact of the situation for

medical staff. “There were multiple stressors,” said Lippold. “The obvious one was literally working on a site of mass destruction and death.

The fact that this was man-made was all the more horrific. But we were too busy to dwell on this, nor could we if we wanted to get any work done. The physical stresses of sleep deprivation, cold and wet weather and sore, blistering feet were real,” she continued. “Walking around the site, often in the dark, and through or near foul smelling plumes of smoke with hard hat and respirator, without knowing true environmental hazards, was also real.”

The biggest challenges she says she faced were logistical. Although work plans were developed daily, implementing those plans often took much longer and had more permutations than were expected. Lippold said situations changed hourly, resulting in chaos that became more organized over time.

She said the medical issues were the least challenging of everything she faced, primarily because of efforts of the DMAT and CCRF teams. She credits Col. Gum with making her job as Medical Officer in the Field easier. “Having a boss one could consult with or access quickly, who thought methodically and conveyed information concisely was a real treat in this chaotic time,” she said. “It made my work all the more possible.”

But, she said, it was also during those chaotic periods that she realized what she was experiencing paled in comparison to people who lost loved ones, including her friend, Pat Phermangngam Hogan. Lippold added, in thinking back, that several things can be said about her experiences. “It was an honor to go, and

it was a duty that mustered every skill I have ever developed or hoped to develop.”

## PENTAGON TRIAGE *Springing into Action*

**Col. John Baxter** is no stranger to the Pentagon. As commander of the Pentagon flight medicine clinic, he has served within the five-sided seat of power for more than six years. Baxter, a USU class of 1989 alumnus, is also the physician to the Secretary of Defense.



Col. John Baxter  
Pentagon Clinic

On Sept. 11, Baxter and his staff were conducting morning clinic, with several patients scattered throughout the various screening rooms. What began as a routine day suddenly turned into chaos as American Airlines flight 77 slammed into the Pentagon at more than 500 miles per hour.

The staff of the fourth-floor flight medicine clinic heard a loud, but muffled, noise which was followed by an alarm and shouts to evacuate. Thinking a bomb had exploded, Baxter and his crew of physicians, nurses and technicians immediately grabbed emergency trauma supply bags and ran towards the tri-service DiLorenzo Tricare Health Clinic, their designated emergency rendezvous site.

Several months prior, the flight medicine clinic had conducted mass casualty training exercises in conjunction with the DiLorenzo clinic, which is commanded by USU class of 1982 graduate Army **Col. Jim Geiling**. In an eerie twist of irony, the exercise simulated a



plane crashing into the building, and members of both health care facilities would soon realize how invaluable that training would be.

Baxter and his staff were directed to the fifth corridor of the Pentagon, with reports of injured personnel. Running to the site, they found a severely burned Army officer who, despite his agony, repeatedly asked them to help co-workers trapped in his office. Even as dense, acrid smoke filled the air, Baxter sent part of his team to find additional victims said to be in the “C” and “D” corridors. He remained with the Army officer, starting an IV, administering morphine, and bandaging his most painful wounds until he was taken out on a stretcher.

As warnings of an approaching airplane spread throughout the building, the health care crew grabbed their equipment and headed down the fifth and sixth hallways and upstairs searching for more injured personnel. Although they could barely see through the thick smoke, their eyes and lungs burning, Baxter and his staff ran as far as they could, shouting that they were medics and yelling for anyone who might still be there to “run this way” to safety. They repeated their actions on each of the floors below them in the affected hallways, finding no new patients.

Baxter’s team made their way to the Pentagon’s center courtyard where they found an injured person lying on her back. At that moment, screams of “inbound, two minutes” filled the air, so they picked up the patient and ran with her back into the building and out to a pre-determined triage site along Boundary Channel Drive.

Outside in the triage area, Baxter’s staff joined that of the DiLorenzo clinic to treat patients with burns, inhalation and blast injuries. Geiling had been at Walter Reed Army Medical Center and was blocked access to the Pentagon as he tried to return to help. In his stead,



Maj. Bridget Larew  
Pentagon Clinic

**Maj. Bridget Larew**, a class of 1998 alumna of USU’s Graduate School of Nursing family nurse practitioner program and chief of primary care, directed the efforts of the DiLorenzo clinic staff. Working alongside her were doctor of medicine graduates **Maj. Liza (Grapilon) Lindenberg ('96)**, an Army family physician and **Capt. George von Hilsheimer ('00)**, who had only been assigned to the clinic less than a week. Both sets of clinic staffers donned blue vests labelled with “physician,” “nurse,”



Maj. Liza Lindenberg  
Pentagon Clinic

or “EMT” for easy identification — an idea borne of their previous mass casualty exercise.

When the plane hit, Larew, a 16-year Air Force veteran, said clinic staffers didn’t see or hear a thing. They didn’t even get a whiff of burning jet fuel. In fact, many people were watching coverage of the World Trade Center attacks. She said it wasn’t until another officer ran into the clinic and told them to evacuate that they knew something was wrong, exactly what was still unknown.

Instead of immediately leaving the clinic, Larew and the clinic’s chief

nurse went into action. Larew said they initially had to evacuate patients already in the clinic, even as people injured from the crash began arriving. Some had serious burns. Most people, those with less serious injuries, were examined at triage sites that Larew helped set up outside.

“It was hard to keep track of time, everything was in slow motion,” said Larew. A second order to evacuate came with reports that another plane was heading toward the Pentagon. Even with that, she said more than an hour passed until they knew for sure that a fuel-laden commercial airliner had already struck the building. “It didn’t register that a plane had hit, even though you knew about the World Trade Center,” Larew said. “I just clicked on autopilot.”

When the medical teams finally relocated to the Pentagon’s center courtyard, Larew was responsible for establishing communications and ensuring availability of medical supplies. In addition to treating the injured, they administered IV solutions to the firefighters to ensure they didn’t suffer from dehydration while fighting the fire.

Larew recalls an unforgettable scene in the courtyard: hundreds of volunteers, “smoky and hazy and very smelly,” an area she said she hasn’t returned to since Sept. 11. “I remember thinking (around 3 p.m.), it’s not fair,” she said. “I’m supposed to have some transition time to get ready to treat patients under fire. You know, traveling to a war zone and preparing the patient care sites.”

The long day eventually turned into evening. It was past 8 p.m. when Larew finally left the Pentagon. But first, she went to the crash site on the west side



of the building. "I could see file cabinets and offices completely out in the open," she said. It wasn't until she got home that what had happened really registered with her, even though she had known by 3 p.m. there was little chance anyone would be brought out alive.

As for the aftereffects from the terrorist attacks, she said they've been almost as bad as the crash itself. "We had to set up an emergency command post, (and) host tenet units such as the critical incident stress management teams and environmental monitoring units. We were not prepared for dealing with all of the different uniformed services demanding information in their format, on their schedules. How we fixed this was we creatively organized all the data each service wanted into one report we put out daily so that we did not duplicate work." And because of Sept. 11 the very nature of her job has changed, she added. "Our mission has changed from a primary care clinic to being first responders in a high value target."

Weeks after the attack there was still work to be done in the fight against terrorism as Pentagon medical teams screened more than 1,000 workers for anthrax. And exactly one month after the attack, her team provided support for a memorial service attended by more than 20,000 people. Larew worked 12-hour shifts until Thanksgiving.

Larew said she is confident that all of the patients treated that day received the best medical care possible. But then she quickly reflected back to the horror of Sept. 11. "I still get a chill up my spine when I smell smoke and hear sirens, but it will help me keep alert so that I will never forget that day."

### From the Classroom to the Field

Several students in the Graduate School of Nursing's Family Nurse Practitioner Program quickly jumped in to provide treatment at the Pentagon and a nearby clinic.



Capt. Joseph Candelario  
Pentagon Response

**Capt. Joseph Candelario**, a first-year Army student had already been seeing patients in the hospital at nearby Fort McNair in northern Virginia since 6:30 a.m. when news came of the attacks on the World Trade Center. Having

stepped outside for a few minutes, he saw the plane streaking toward the White House before it made a sharp turn to slam into the Pentagon.

"I returned to the clinic to hear our radio contact from the clinic in the Pentagon calling for more help and supplies," Candelario said. "We made immediate preparations to leave one doctor, nurse practitioner and a medic at the clinic, while I, along with three medics, took supplies to the Pentagon."

After distributing the supplies, the team stayed to help treat some of the casualties and later joined a search and rescue team at the impact site. The captain said they helped free a few people still trapped by debris but also found many body parts and about a half-dozen bodies. Unable to go on

*"It sounded like a flyby, only with a bigger sound and too close for comfort. Then we heard a boom." – Capt. Ilse Alumbaugh, Pentagon Response*

because of the fire, Candelario said rescue workers waited until the fire could be put out.

What they didn't know, he said, was that it would be more than a day before that would happen. With the fire out of control, the response teams pulled back to the Pentagon's center courtyard to set up a morgue. They stayed until 7:30 p.m., then returned to Fort McNair, where Candelario briefed the hospital's officer in charge of the Pentagon response.

Meanwhile, **Capt. Ilse Alumbaugh** was beginning her first day of rounds at the Navy Annex in Arlington, Virginia, just up the hill from the Pentagon, when she heard Flight 77 roar overhead. "It sounded like a flyby, only with a bigger sound and too close for comfort," she said. "Then we heard a boom."



Capt. Ilse Alumbaugh  
Pentagon Response

Racing outside, Alumbaugh, a member of the Class of 2003, and other medical staffers looked down the hill and saw the Pentagon in flames. However, instead of heading to the Pentagon, they stayed at the clinic to await patients there. Along with fellow GSN student **Capt. Lisa Ford**, Alumbaugh helped treat several patients, including one who suffered burns on his back, legs and arms, and another who fell through two floors which had collapsed under him.



Capt. Lisa Ford  
Pentagon Response

Captain Alumbaugh said she remembers the rest of the day being filled with



rumors of other attacks, trying to grab a bite to eat and waiting for more patients, although very few arrived. In fact, she said there was talk of turning the treatment area into a morgue. Relieved when the decision was made not to do that, Alumbaugh recalls, "I was thinking that not having a morgue meant not having any reason to have a morgue. Unrealistic of course, but a thought just the same."

## FORENSICS Handling the Difficult Task



Cmdr. Douglas Knittel  
Pentagon Forensic

Within one hour of American Airlines flight 77 crashing into the Pentagon, reducing layers of infrastructure into flaming rubble, **Navy Cmdr. Douglas Knittel, MC, USN ('85)**, was on the phone to the Armed Forces Institute of Pathology (AFIP) in Washington, D.C.

Knittel, a forensic pathologist assigned to the Naval Medical Center in Portsmouth, Virginia, who is one of only six U.S. regional armed forces medical examiners worldwide, knew he would be needed.

Within 24 hours, Knittel was in Washington, calling as many uniformed pathologists and other specialists as possible to assist in the task of identifying victims' remains. A team of more than 50 AFIP staff members, including Knittel, met at the Dover Air Force Base, Delaware, Port Mortuary on Sept. 13 to begin the job. Along with Knittel, USU alumni **Maj. Glenn Sandberg ('87)**, **Maj. Elizabeth "Lee" Rouse ('95)**, **Maj. Jim Feig ('94)**, **Maj.**



Maj. Jim Feig  
Pentagon Forensic



Maj. Brian Kendall  
Pentagon Forensic



Lt. Col. Lisa Pearse  
Pentagon Forensic

**Brian Kendall ('90)**, and **Lt. Col. Lisa Pearse ('89)**, answered the call to help.

Sandberg is the assistant chair of neuropathology and ophthalmic pathology, and the recently appointed chair of the department of scientific laboratories at the Armed Forces Institute of Pathology (AFIP). On Sept. 12, he volunteered to assist. The next day he was at the port mortuary, awaiting the arrival of the first sets of remains from the Pentagon. Rouse, a forensic pathologist assigned to Wilford Hall USAF Medical Center in San Antonio, Texas, is another of the six regional armed forces medical examiners. Feig is currently an outservice forensic pathology fellow in the Bexar County, Texas, medical examiner's office, and Kendall serves as chief of

anatomic pathology at Wilford Hall. The four of them, along with Knittel, had similar roles while at the port mortuary conducting autopsies, collecting specimens for DNA analysis, and trying to identify bodies.

Lisa Pearse's role was different than those of her fellow USU alumni. As an epidemiologist and chief of the mortuary surveillance division in the office of the Armed Forces Medical Examiner at AFIP, Pearse is responsible

for monitoring all active duty deaths for trends, particularly looking for sudden spikes or changes that could represent emerging infections or subtle biological warfare attacks.

Pearse said her office at AFIP is new and no one really considered how an epidemiologist would fit into the overall mission in the event of a mass casualty. However, Sept. 11 changed all of that. Data collection and case tracking turned out to be essential elements of the identification mission at the port mortuary. Pearse designed a database to describe and follow all specimens, from full autopsies through the smallest specimens for which identification was probable based on DNA extraction. Her system tracked demographic information on the missing, whether or not medical records, dental records or DNA profiles were available for each of the 188 victims, and tracked who had been identified and by what method (dental, fingerprint or DNA.) According to Pearse, it was the first time that electronic record keeping was used by the medical examiner's office to supplement paper records, and it allowed for real-time reporting throughout the mission. The data collected by Pearse is being analyzed to evaluate casualty identification modalities, injury patterns, and structural issues in the Pentagon that might have influenced survival patterns.

Early on, staff worked 14-hour days, starting at 7 a.m. and continuing well into the evening. The average length of stay was from one and a half to two weeks for most of the volunteers. Their first step in the identification process was to fingerprint the victims. The FBI's latent prints experts were there assisting in the task. If fingerprints were not available, dental records



were examined for a positive match and DNA specimens were collected. Many of the Pentagon casualties were military members whose records were readily available, making the identification much quicker.

The DNA samples were turned over to a specialized team from AFIP's DNA identification laboratory to catalog and ship back to their headquarters in Rockville, Maryland, for final analysis. The Department of Defense is a leader in the use of DNA for identification purposes, and AFIP maintains a repository of over 3.2 million blood specimen sample cards for all active duty and reserve personnel. Experts at the DNA lab used the cards to match the tissue samples sent to render positive identifications. Autopsies were also conducted to determine the exact cause of death.

Knittel said overall everyone was exhausted, but were kept going by the thought they "were helping people get back to their loved ones and providing information or evidence to enable the FBI to catch whoever was responsible." "It made the fatigue go away," he said.

*"My experiences at USU were the best possible preparation for functioning in a joint environment."*  
 – **Cmdr. Douglas Knittel**, Pentagon Forensic

Meanwhile, **George Holborow**, curator of the Anatomical Teaching Laboratory at USU, responded as a member of the Disaster Mortuary Operational Response Team (DMORT) to the Pennsylvania crash site. DMORT is part of the National Disaster Medical System, a federal team operating under the auspices of the Office of Emergency

Preparedness in the Department of Health and Human Services.

Holborow served as the mortuary officer and anatomical specialist at the temporary morgue that was established at the Army National Guard post in Somerset County, PA. He helped collect evidence and identify the remains of the passengers and crew of United Flight 93.

## HAZMAT Securing the Scene



MSgt. Roberto Rolon  
 Pentagon Hazmat Safety



SSgt. Victoria Candelora  
 Pentagon Hazmat Safety

**Master Sgt. Roberto Rolon** and **Staff Sgt. Victoria Candelora** were part of an Air Force Bioenvironmental Engineering Contingency Support Team that performed environmental and personal air sampling at the Pentagon in the days following the attack there. They are assigned to USU's Environmental Health and Occupational Safety Office.

The team, which comes under the direction of the U.S. Army Center for Health Promotion and Preventive Medicine, took more than 1,060 direct environmental air quality measurements, 290 personal air samples and 369 wipe samples from Sept. 12-20. They monitored members of the U.S. Army's Old Guard to evaluate and document potential health risks from

burning jet fuel and the building itself during search and recovery efforts. "These samples ensure air quality levels were within acceptable limits and aided in decisions for work rest cycles of recovery operation teams," said Rolon.

Also at the Pentagon, **Lt. Cmdr. Philip Smith**, along with **Chief Hospital Corpsman Jeff Sanford** and **Hospital Corpsman First Class Angela Viers** of USU's

Department of Preventive Medicine and Biometrics (PMB), set up a command unit for real-time chemical detection for the Army and the Environmental Protection Agency. For several days beginning Sept. 15, they conducted 24-hour operations that resulted in more than 120 immediately analyzed collections of volatile organic compounds, primarily from the jet fuel. Initially, they also checked for asbestos. Assisting them were **Lt. Cmdr. Gary Hook**, **Maj. Greg Kimm** and **Capt. Tara Hall**, all graduate students in PMB.

Using special equipment that could analyze samples quickly, they were able to pass along the results to the EPA and other organizations in less than an hour, helping them determine when it was safe for recovery teams to go into offices that were damaged by the crash.



Lt. Cmdr. Gary Hook  
 Pentagon Hazmat Safety



Maj. Greg Kimm  
 Pentagon Hazmat Safety



Capt. Tara Hall  
 Pentagon Hazmat Safety



*One of the most unique aspects of a USU education is the extensive emergency response training that all graduates receive. Students learn not only how to provide a medical response to disasters, but also how to organize the response from a tactical and operational perspective. Although it is often assumed that such training will be used primarily in war-time and on foreign soil, the staff and graduates of USU showed on Sept. 11 and in the days afterwards that the training they received truly prepared them for anything.*

## ***USU Center Puts Training to the Test***

The Casualty Care Research Center (CCRC) played an important role responding to the recent attacks. Staff members were among the first medical personnel to arrive at the Pentagon on Sept. 11. That morning, **Jason Kepp** was working as an instructor with CCRC's Counter Narcotics Terrorism Operations Medical Support (CON-TOMS) Program, which provides specialized medical training to tactical law enforcement programs. He was in the Anacostia section of Washington, D.C., teaching members of the U.S. Park Police how to respond safely and effectively to the crowds of demonstrators expected to turn out at the upcoming meeting of the International Monetary Fund when the group heard the explosion across the river. Within moments, Kepp and teammate **Keith Kettell** were on board two Park Police helicopters headed for the Pentagon.

Despite the confusion at the scene, Kepp and Kettell worked with military

and civilian personnel to set up a triage and treatment system. Minutes after landing, Kepp was back on board the chopper, treating two DoD civilians on the way to the hospital.

The Center served as a lifeline to the medical support teams deployed to New York's World Trade Center during the aftermath of Sept. 11. CCRC staff went to the site of ground zero on Sept. 12 to provide ongoing medical aid to rescue personnel working there in the weeks following the terrorist attacks.

CCRC program staffers have been working overtime since the attacks, providing assistance at both the Wash., D.C. and New York sites. Back in the classroom, CCRC personnel will apply their experiences at the scenes to their curriculum, imparting first-hand knowledge to better prepare students for future emergency situations they may encounter.

## ***About CRCC***

The Casualty Care Research Center is just one example of the university's ability to transfer the military practices and lessons learned to both the USU curriculum and to training programs for civilians. Located in the Department of Military and Emergency Medicine, CCRC is a center of excellence on issues related to injury control, casualty care, and operational medicine. It is staffed by a variety of military and civilian physicians, pre-hospital care experts, and scientists who work to train medical students, medical personnel, and graduate physicians in military-relevant operational medicine. In addition, the Center provides research, resource, and technical assistance to other government and private organizations who provide "first response" care in the field.

*Many thanks to the faculty, alumni and students who shared their stories and photographs for this article. We would like to acknowledge the other members of the USU community who contributed to the response, who were not included in this feature article.*