

# *Navy Medicine*

SUMMER 2012

Official Magazine of U.S. Navy and Marine Corps Medicine

**CORPSMEN TREAT SUICIDE  
BOMB VICTIMS 16**

**NAVY MEDICINE KEEPS  
HMX-1 FIT TO FLY 32**



**PACIFIC PARTNERSHIP 2012  
COMPLETES FIRST MISSION 28**

# Navy Medicine

Official Magazine of U.S. Navy and  
Marine Corps Medicine

Vol. 104 No. 4 • Summer 2012

Surgeon General of the Navy  
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NAVY MEDICINE is the professional magazine of the Navy Medical Department community. Its purpose is to educate its readers on Navy Medicine missions and programs. This magazine will also draw upon the medical department's rich historical legacy to instill a sense of pride and professionalism among the Navy Medical Department community and to enhance reader awareness of the increasing relevance of Navy Medicine in and for our nation's defense.

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##### SUBMISSION REQUIREMENTS:

Articles must be between 600-1,000 words.

All articles must be present tense/active voice.

Photos must be minimum 300 dpi.

Photos showing action are preferred.

All photos must be accompanied by a caption and photo credit.

##### Subjects considered:

**Scuttlebutt:** Stories about activities at MTFs and the field.

**Photo Album:** Action shots from across Navy Medicine.

**Feature Articles:** Stories featuring interesting contributions of Navy Medicine to military operations including everything from combat support to Humanitarian Relief/Disaster Response will be considered.

Please contact Paul Ross (paul.ross@med.navy.mil) for current theme of issue in progress.

**R & D and Innovations:** Any new processes and/or research and development news.

**Quality Care:** Anything that improves the quality of care for our patients.

**IT, QA:** Any articles showing how Navy Medicine is utilizing the electronic age.

**Shipmates:** Anything interesting about our shipmates working in the healthcare field in the Department of the Navy.

All submissions must be accompanied by complete contact information for author. In the event there is more than one author please assign one author to be primary correspondent.

Feedback Welcome  
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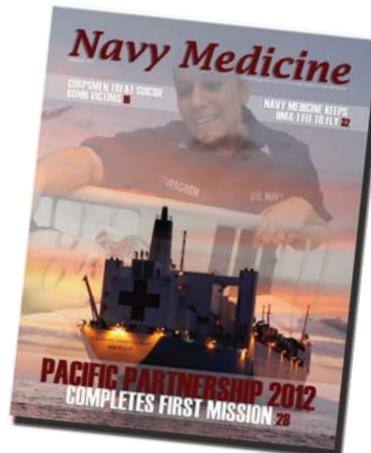
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# CONTENTS

## Summer Issue

- 4 ADMIRAL'S CALL
- 6 FORCE NOTES
- 8 VIEW FROM THE FRONTLINE
- 10 THE KEY TO FAMILY READINESS
- 11 NAVY CORPSMAN RESCUES WOUNDED MARINE
- 12 NAVY CORPSMAN AWARDED SILVER STAR
- 14 CORPSMEN TREAT SUICIDE BOMB VICTIMS
- 18 MINE-RESISTANT AMBULANCE TRAINING
- 20 COLLABORATION DRIVES CHANGE
- 24 TRAINING TO SAVE LIVES
- 28 PACIFIC PARTNERSHIP 2012 COMPLETES FIRST MISSION
- 32 NAVY MEDICINE KEEPS HMX-1 FIT TO FLY
- 36 WILDERNESS RACE
- 38 ALABAMA CARE 2012
- 40 THE COMBAT TRAUMA CARE SYSTEM
- 44 NAVY MEDICINE SETTLES INTO NEW HOME
- 46 BREAKING GROUND
- 48 INNOVATIONS/R&D
- 52 A LOOK BACK



### On the Cover

Background Photo: Hospital Corpsman 2nd Class Kristen Forsgren, rubs the head of a four-month-old Indonesian girl that came out of surgery to fix her cleft lip aboard the hospital ship USNS Mercy (T-AH 19) during Pacific Partnership 2012. (Photo by Kristopher Radder)

Foreground Photo: Hospital ship USNS Mercy (T-AH-19) steams off the coast of Manado Bay at sunset after the opening ceremony for Pacific Partnership 2012. (Photo by Camelia Montoy) (Graphic Illustration by Paul Ross)

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**PACIFIC PARTNERSHIP 2012 COMPLETES FIRST MISSION | 28**



**NAVY MEDICINE KEEPS HMX-1 FIT TO FLY | 32**



**CORPSMEN TREAT SUICIDE BOMB VICTIMS | 14**



**VIEW FROM THE FRONTLINE | 8**

# Forward and Ready: Navy

**M**y focus as your Surgeon General is to ensure that Navy Medicine is supporting our forward deployed forces.

The U.S. Navy's global mission is to be a power projection platform, and we provide expeditionary Force Health Protection for the men and women that makeup that platform.

I recently traveled to Afghanistan to visit our people and medical facilities at Camp Leatherneck, Bastion, Bagram, Kabul, and Kandahar.

I saw what you already know ... our shipmates are performing at unparalleled levels of mission suc-

cess, competency, and professionalism.

I ensure that Navy Medicine is doing this successfully, by seeing and hearing firsthand, along with my top enlisted leader, Force Master Chief Sherman

Boss, from the operators and providers in theater.

So we traveled into theater, and we did

not go alone. U.S. Army

Deputy Surgeon General Maj. Gen.

Richard Stone, Surgeon General of the U.S. Air Force Lt. Gen.

Charles Green, and United Kingdom

Surgeon General Vice Adm.

Philip Raffaelli joined us, along with their senior enlisted advisors.

In many respects, I saw exactly what I expected to see: Navy Medicine providing world-class

expeditionary care and direct support to the

warfighter; however I saw some extraordinary efforts that I would like to share with you.

During our visit, we saw the great joint training occurring in the U.K. for the British-U.S. team manning the Bastion Role III facility. In Afghanistan, I toured many of our Role II and Role III combat hospitals including the U.S. Navy-led NATO Role III Multinational Medical Unit in Kandahar. We also visited the Concussion Restoration Care Center (CRCC) at Camp Leatherneck, and the Navy's Mobile Mental Health Care Teams (MCT) that work throughout the country.

We were all impressed with the exceptional work that they are doing. The way our in-theater forces are able to jointly operate across the medical spectrum while maintaining exceptional care for our coalition forces and the lessons learned from these experiences will shape the way we do business in future forums at home as well as abroad. This joint infrastructure will be invaluable as we move forward in the future of military medicine.

Our medical teams in theater are setting the new standard and establishing the best practices in life-saving trauma care, to treat those with the number one battle injury ... concussions and musculoskeletal severe injuries. This provides real-time mental and behavioral health as well as conducting well-being screening that identifies combat stressors and promote resiliency.

A testament to our team's efforts can be seen in our return to duty rates for concussed patients. Since August 2010 when the CRCC opened, there has been a nearly 98 percent return to duty rate and on average patients went back to work less than 11 days after injury. That's impressive. You should be proud. I know I am!

I also spoke with many of the senior line leaders of our forces in addition to senior Afghanistan military leaders and

Surgeon General of the Navy Vice Adm. Matthew Nathan talks with a group of service members at Camp Leatherneck during a visit to Regional Command South-West. (Photo by Capt. Addie Snay)

# y Medicine in Afghanistan

they all respect and admire the results and collaborative efforts of all involved in these critical medical missions. I want to emphasize that this vital collaboration among nations has enabled us to save the lives of not only our Sailors, Marines, Soldiers, and Airmen but the lives of our international and host nation partners as well.

To the military medical personnel serving in Afghanistan, I saw the success of your efforts and impressive skills while serving as commander,  
Walter

Reed National Military Medical Center. The continuum of combat care — from battlefield to bedside — is a testament to the dedication, commitment, and sheer determination of those who serve along the way, both the wounded, ill and injured as well as those who care for them. You tell death, illness, and pain, “If you want to get to those I care for, you will have to go through me.” I have never been more proud to serve with you in Navy Medicine.

tunity to talk with many of you during my time there, and as I said earlier, you carry out your mission 24-7, day-in and day-out, under the most rigorous conditions. I challenge anyone to suit-up in that environment and keep up.

Our people are inspirational. I thank you on behalf of a proud Navy and a grateful nation.

*--Vice Adm. Matthew L. Nathan*

I had the oppor-



# BEING THE BEST

## Reaching the top is achieved through teamwork

During my time in the Navy, there have been many movies that create the impression that it is all about making it to the top or being number one.

Take for instance the movie, *Top Gun*, where Maverick competes to be the top fighter pilot at the Navy's Strike Fighter Tactics Instructor program, known as "Top Gun." The film creates the impression that it's about competing for the top position, but what the movie fails to capture is the amount of teamwork that it takes to be number one.

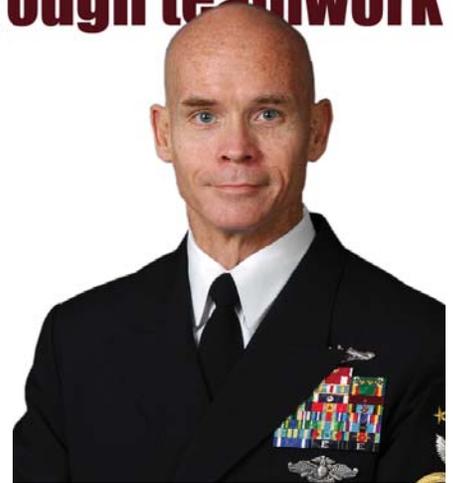
Keeping F-18's in the air is a team effort, especially when launching from an aircraft carrier in the Pacific Ocean. From the air boss to the bridge, to the flight deck crew to engineering, the purple, red, green, yellow, white and blue shirts work to launch the aircraft for flight — it's not about who's the top dog on the deck, it's how well the team performs.

As we all know, ships are functionally organized into small teams or divisions that inter-relate in the delivery of operational services and tasks. Each division's performance is a contributor to the overall capability in the execution of the command's mission. There is a natural synergy due to the shared experience

and focus on the task at hand rather than the chain of command. When things go well, they do so because of the contribution of all hands.

Optimizing a team performance afloat and ashore requires a transformational leadership approach, that maximizes our Sailors full potential, and the shaping of attitudes and values that support cooperative efforts to achieve common goals and standards. Once achieved, teamwork improves reaction time, mitigates errors and increases communication. Teamwork is developed by training, practice and communication. It starts with a shared and common understanding of the task at hand. Within each team there is a diversity of talent, knowledge and attributes. Leaders influence this diversity by the way they go about training and developing their Sailors.

In a team-oriented activity or event, Sailors must work together efficiently among themselves. A leader must direct the masses, while attending to the needs of the individual Sailor. The physical structure of the platform and the sustained nature of some operations, generate inter-personal issues that can impact on the dynamics of the team. To



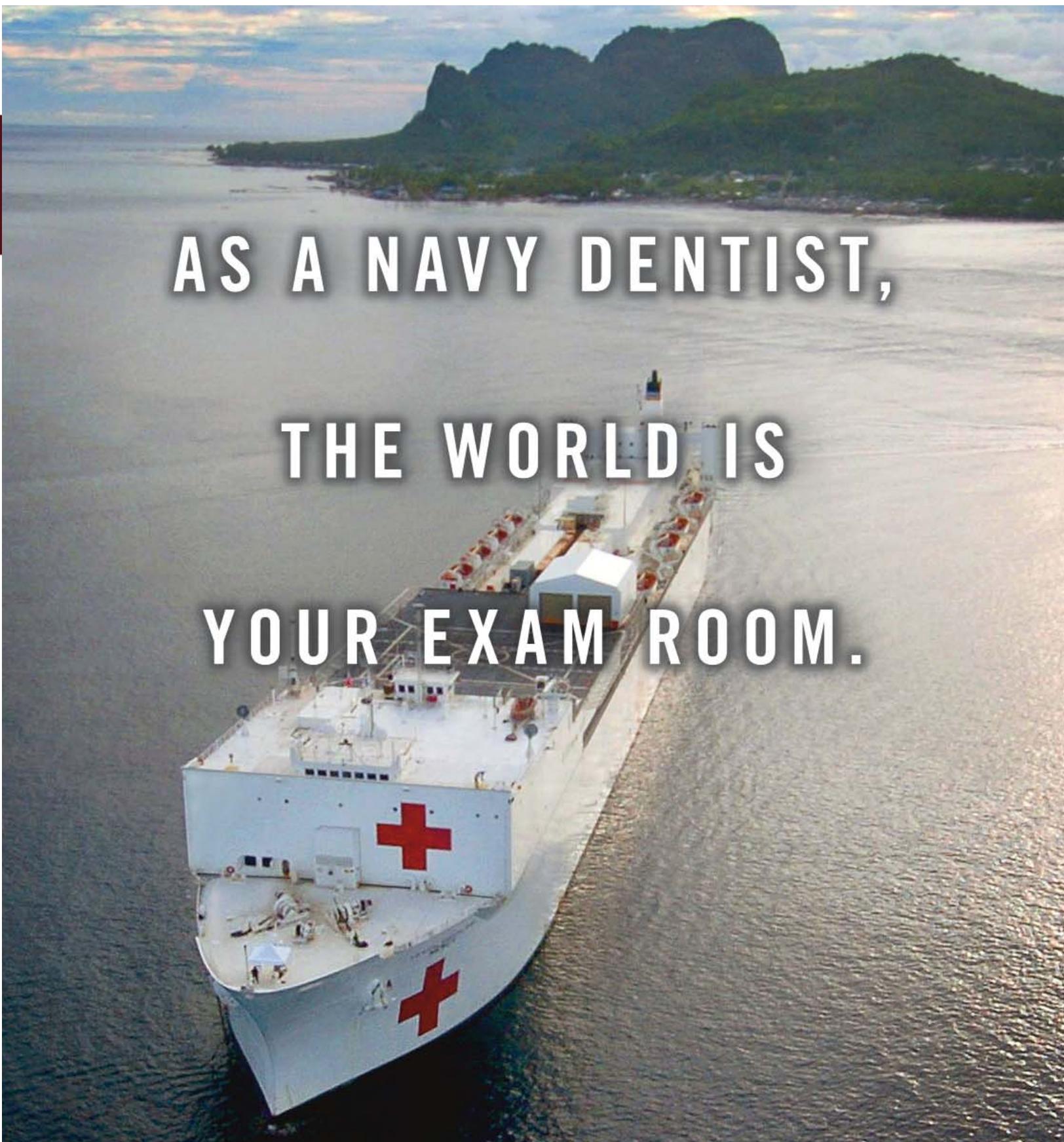
be a successful leader, one must know their job, work hard, accept responsibility, exude enthusiasm, communicate clearly, set standards and insist on them and be committed to serve the country and their shipmates.

In my opinion, good leaders are made, not born. If a Sailor has the yearning and fortitude, he or she can become a successful leader. Good leaders develop through constant learning, training, and experience. Leaders are a fundamental part into the teamwork. But it is not only about the leader, it is about the responsibility, the motivation and the mutual agreement from the members of the team in order to achieve a common goal.

Is your team ready to launch the underway strike fighter or assume the duties in the Emergency Room? This is why we must continue to develop and train our Sailors to be our relief. The teamwork setting provides the foundation for which our Navy is built upon and affects the very leadership our junior Sailors depend upon. I challenge each of you to work on team cohesiveness and foster new ideas to accomplish our Navy's demanding mission!

-- Force Master Chief  
Sherman E. Boss

**In a team-oriented activity or event, Sailors must work together efficiently among themselves. A leader must direct the masses, while attending to the needs of the individual Sailor.**



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# VIEW FROM THE FRONTLINE

*Navy Surgeon General visits troops in Afghanistan*

*By Mass Communications Specialist 3rd Class Monique LaRouche  
Regional Command Southwest*



**Vice Adm. Matthew Nathan, the 37th surgeon general of the Navy and chief of the Navy's Bureau of Medicine and Surgery, congratulates Petty Officer 1st Class Brandie Mendoza, Headquarters Battalion, 1st Marine Division (Forward), Camp Leatherneck, Afghanistan, April 17. Mendoza was recognized by her unit for her excellence and professionalism. (Photos by Petty Officer 3rd Class Monique LaRouche)**

Vice Adm. Matthew Nathan, the 37th Surgeon General of the Navy and chief of the Navy's Bureau of Medicine and Surgery, visited Camp Leatherneck, Afghanistan, April 17, as part of a tour with other surgeon generals from the joint services to include the Army, Air Force and United Kingdom.

The trip was to meet with deployed medical facilities, listen and learn from those executing the mission, address the military mission and how military medicine can contribute to success on the battlefield.

They meet those who execute the mission, Soldiers, Sailors, Airmen and Marines who are getting the job done, said Cmdr. Patrick Paul, medical planner for Regional Command (Southwest).

The surgeon generals were able to get an honest representation of the area of operations and how the joint services work together. They were able to establish the specifics to their service, as well as the working relationships all the services have here.

"They came away seeing how everybody works together," said Paul. "We can't function without

the U.K., the Army or the Air Force."

The surgeon general's tour was supposed to start in Kabul, the nation's capital, but because of inclement weather, they were rerouted to Bagram and then Kandahar after visiting Camp Leatherneck. This event made their trip more realistic to what those deployed are going through.

"That is just the nature of being out here," said Paul. "It is the nature of this place, things are going to happen and fortunately we have a system that can take care of them."

Part of the tour was to visit the medical facilities including the Combined Aid Station, Extended Care Ward and the Concussion Restoration Care Center where they were able to meet with the medical staff members. At the roundtable, vital topics such as traumatic brain injury, concussion care, and research and treatment were discussed.

The surgeon generals left knowing that the system works. There is world-class medical care in austere and dangerous conditions, said Paul. The deployment readiness and training has prepared the members for the worst.



Nathan's visit came at a time of need. The service members were given a sense of validation all the way from the surgeons to the medics, knowing that their care is important. The care is full circle, from the battlefield to back home.

Accompanying Nathan was Force Master Chief Sherman Boss. After lunch, the surgeon generals broke apart to visit with their individual service members. Vice Adm. Nathan and Boss headed to the main chapel for an afternoon of discourse.

As the seats filled with corpsmen and other medical staff, enlisted to officer, the excitement of the vice admiral's presence was in the air.

"Attention on deck," was called out. The crowd snapped to attention. "As you were," called the admiral.

His speech began with thanking the service members for their selfless service and sacrifice to their country. His words of dedication to the members was heartfelt, letting them know they are a small percentage of the population who is serving.

Nathan, who served as commander at Walter Reed and Bethesda in Maryland for more than three years, has seen the wounded warriors who were once on the battlefields in Afghanistan make it back home. He praised the corpsmen letting them know their care does not go unnoticed. They work elegantly, professionally and fiercely and they would not be able to do it without them, said Nathan.

"You are not here for contingency," said Nathan. "You are here every day, taking care of the sickest, most injured people on the planet and you are doing it in a way no one else can."

He let them know they do so much more than take care of the casualties. The care also consists of mental health, behavioral, routine care and ailments.

Nathan reminded them of their professionalism. He made the crowd laugh with his sense of humor as he shared his experiences he had as a young doctor working with the Marines.

He extended information of what is happening back in the States. He filled them in on big Navy issues, Department of Defense and funding. He addressed the concerns many members have about the decision the military has made to draw down the troops, not only in Afghanistan, but also in the fleet. He informed them of the challenges of the transition and getting the host nation up to speed to take on their own country's needs.

His straightforward and direct approach left the Sailors with an understanding of the present and future situation of the military. He talked about the lessons learned and the tactics if there is another war. He raised these issues and talked about the power and the role of the Navy. He stressed the importance of the work with joint services.

"I think it's great," said Navy Hospital Corpsman 3rd Class Robert Casey, Combat Logistics Battalion 4. "If anyone that high in my chain of command flies thousands of miles with topics or updates he wants to speak on to put out to every Sailor here in theater, who am I to miss it. You can't 'Google' the knowledge he wants to share."

"Their visit should let everyone know to take a step back from their sections and duties, and remember the big picture," continued Casey, a native of Sacramento, Calif., "It's easy to get tunnel vision with our workload, but their visit should serve as a reminder of why we are here. We are not only affecting the local people and their nation, but also our fellow Americans back home."

"I believe the visit by the surgeon general and the force master chief was very well-received. Their visit exhibits their pride and concern for what we

**Vice Adm. Matthew Nathan, the 37th surgeon general of the Navy and chief of the U.S. Navy Bureau of Medicine and Surgery, and Force Master Chief Sherman Boss visit Camp Leatherneck, Afghanistan, April 17, as part of a tour with other surgeon general's from the joint services to include the Army, Air Force and United Kingdom. Nathan and Boss speak to the crowd of corpsmen at the main chapel after a day of touring the medical facilities.**



**International Security Assistance Force Joint Command Surgeon Brig. Gen. Brian Lein, Army Deputy Surgeon General Maj. Gen. Richard Stone, Air Force Surgeon General Lt. Gen. Charles Green, Navy Surgeon General Vice Adm. Matthew Nathan, U.K. Surgeon General Vice Adm. Phillip Raffealli and, ISAF Medical Adviser Brigadier Chris Parker visit the Combined Aid Station, Extended Care Ward and the Concussion Restoration Care Center on Camp Leatherneck, Afghanistan.**

are accomplishing here in Afghanistan,” said Navy Chief Hospital Corpsman April Merriman, the medical leading chief petty officer for I Marine Expeditionary Force headquarters Group (Forward). “We have around a 98 percent survivability rate on the battlefield. That is an extraordinary accomplishment and just goes to show the level of knowledge and expertise by each member in their specific field of study. Whether it’s the corpsman providing lifesaving skills at the point of injury or the surgeon who does the operating, each member is vital to the overall success of the mission.”

Boss addressed the crowd with a story of “Aunt Lucy” — a promise that he made to an elderly woman he had met at a restaurant. Boss was carrying a Navy key chain and the woman was curious about why Boss had it. She sat down and talked to him for some time. She told him her late husband, who passed away, was in the Marine Corps, and her great grandson is too. Her grandson was actually treated at Bastion Hospital and is alive today because of the treatment he received there. She asked Boss if he could extend her gratitude to the service members here. He kept his promise and told her story.

Nathan, then opened up the floor to questions and provided answers. At the end of the speech, some sailors were recognized by Nathan and their units for outstanding service. Among those were Casey and Navy Hospital Corpsman 1st Class Brandie Mendoza, Headquarters Battalion, 1st Marine Division (Forward).

“I was very pleasantly surprised to be recognized by my chief and by the surgeon general,” said Mendoza, a native of Carrollton, Ky. “It was a unique experience that I am extremely grateful for.”

“It was refreshing to hear how highly he speaks of Navy medicine and the job corpsmen do in combat,” Mendoza added. “I liked most that he motivated everyone in the room.”

“Their visit has also strengthened the resolve for each Navy medical professional by reminding each person of the importance and the contributions they make on a daily basis,” said Merriman. “We may not see or hear of the long-lasting impact we may have made, but I think that the force master chief’s story about Aunt Lucy helped paint the picture for some.”

The chapel visit ended with photograph opportunities with Nathan and Boss. +

# NAVY CORPSMAN RESCUES WOUNDED MARINE

Story and photo by Marine Corps Cpl. Kenneth Jasik | Regimental Combat Team 6



Navy Hospital Corpsman 3rd Class Eduardo D. Estrada, Golf Company, 2nd Battalion, 5th Marine Regiment, along with two other corpsmen, helped save the life of 1st Lt. Michael Rhoads, a forward observer, who was shot in the torso.

**W**hen the Marines reached the hilltop, they knew it was going to be a rough day.

They had already taken fire, and they were patrolling in an area that coalition forces had rarely been since the decade-long war began.

At the top of the hill, the Marines took fire from insurgents when one of their brothers was wounded.

Navy Hospital Corpsman 3rd Class Eduardo D. Estrada, Golf Company, 2nd Battalion, 5th Marine Regiment, along with two other Navy corpsmen, helped save the life of 1st Lt. Michael Rhoads, a forward observer, who was shot in the torso.

The Marine was wounded, April 15, during Operation Lariat, a mission to cut off insurgent supply routes. The Marines were going to investigate suspicious compounds, but started taking fire when they got near the village.

"Right before they called 'corpsman up,' the insurgents started walking shots on us, and they started impacting about three feet from us," said Estrada, 24, from Tucson, Ariz. "At the time, I was thinking 'I really want to get out of here.'"

Rhoads, who was hit by a bullet ricochet in the shoulder, was under the treatment of two other Navy corpsmen when Estrada reached him. Hospital Corpsman 3rd Class Nathan K. Bracey and Hospital Corpsman 2nd Class Shan Datugan were the first on the scene.

"When they called for the corpsman, I was right there, and we pulled him off the line," said Bracey, 24, From Athens, Texas. "He was in shock already. When I saw the entrance wound, I applied an occlusive dressing (an air-tight bandage) and another one to the exit wound on his back."

The corpsmen applied the bandages with the relentless crack of rounds overhead.

After applying an airtight bandage to Rhoads' damaged chest cavity, the three

corpsmen saw his vital signs drop and knew there was more work to do.

"In the second assessment, we saw his skin was pale, cool and clammy," said Estrada. "We stuck him with a needle once, and a small amount of blood came out. That was when we knew he had a hemopneumothorax."

Still under enemy fire, the corpsmen needed to empty Rhoads' chest cavity. Blood and air leaked out of Rhoads' lungs and into his chest, taking up the space his lungs needed to fill with air. They stuck him a second time hoping to cure his hemopneumothorax. They got the same result.

"Then I went ahead and did it a third time," said Estrada. "His vitals went up, including his pulse and breathing rate."

It was a short wait for the medical evacuation helicopter to take Rhoads to safety and a higher level treatment center.

"At that point I was trying to coach him, keep him calm as possible," Estrada said. "We asked him questions such as who the president was, and he got all of them right."

Rhoads survived and is now recovering in Southern California.

"Once we got him to the bird, I knew he would make it," said Estrada. "We had done everything we could do, and we rendered the appropriate treatment for his wounds."

Rhoads is thankful for the corpsmen who helped save his life.

"It's nice to know I helped save his life," said Estrada. "He called and thanked all the corpsmen." ♦

**"We stuck him with a needle once, and a small amount of blood came out. That was when we knew he had a hemopneumothorax."**

- Navy Hospital Corpsman 3rd Class Eduardo D. Estrada, Golf Company, 2nd Battalion, 5th Marine Regiment



Navy Hospital Corpsman 3rd Class Todd Angell (right) stands opposite Marine Corps Maj. Gen. John A. Toolan, commanding general of 2nd Marine Division, and Marine Corps Cpl. Brandon Rumbaugh as he receives the Silver Star medal for his actions in Afghanistan. Angell assisted in treating Rumbaugh after he was hit by an improvised explosive device in Helmand province last year, resulting in the amputation of both legs. (Photo by Marine Corps Cpl. Timothy L. Solano)

**N**avy hospital Corpsman 3rd Class Todd Angell received one of the nation's highest military awards for valor, the Silver Star, for his heroism in Afghanistan with Weapons Company, 1st Battalion, 8th Marine Regiment, 2nd Marine Division.

Cpl. Brandon Rumbaugh, a close friend of Angell's and a Marine whose life he helped save in Afghanistan, pinned the medal on the Bethel, Conn., native during a ceremony April 27.

Rumbaugh, a Uniontown, Pa., native, became a double amputee after stepping on an improvised explosive device. Angell was one of the service members who rushed to his aid and started him on intravenous fluids and medication.

"One of the hardest (casualties) I worked on was Rumbaugh; he was one of the most unstable casualties I had," said Angell. "He was actually less stable than a kid I treated with a gunshot wound to the head. I did everything I could, but I didn't know if it was enough. Having him pin me meant the world to me. Just to have Rumbaugh alive to pin me, that's more than any Silver Star or any medal."

Rumbaugh wasn't the only one Angell saved during his tour in Afghanistan. Angell risked his life on many occasions to save others because he said, "If that means being hurt on the way, so be it."

During one incident, Oct. 12, 2010, Angell took a Marine fire team and unknowingly ran more than 500 meters through an IED hotspot to provide

immediate care for Marines injured by IEDs, rather than wait for vehicles to navigate the difficult terrain in the area.

"I just grabbed my gear and just ran," said Angell. "It was a long run, probably the longest run of my life. I was pretty broke off by the time I got up there."

Another incident, Nov. 8, 2010, involved the treatment of an Afghan National Army soldier who stepped on an IED. Angell was following a Marine handling a minesweeper to get to the wounded Soldier when the Marine struck an IED. Angell assessed the Marine's injury before moving toward the Soldier, where he applied tourniquets to both amputated legs, administered intravenous fluids and stabilized the Soldier. As he was treating him, an explosive ordnance disposal Marine working onsite also struck an IED, receiving



**Navy Hospital Corpsman 3rd Class Todd Angell, 1st Battalion, 8th Marine Regiment, 2nd Marine Division, bends over to allow close friend Cpl. Brandon Rumbaugh to pin on his Silver Star during a ceremony, April 27.** (Photo by Marine Corps Staff Sgt. Neil A. Sevelius)

minor blast injuries. After treating the three injured men and ensuring the safe evacuation of the Soldier, a firefight broke out, resulting in a local resident being shot in the head. Angell treated the civilian promptly and saved his life.

Angell wasn't done yet. On Dec. 20, 2010, it was his combat skills that shined. During a firefight, Angell killed two insurgents at distances up to 400 meters. As the firefight continued, Angell also acted as the assistant mortar gunner. By the end of the day, he had fired 17 mortar rounds at enemy positions.

"I don't see Doc Angell as a corpsman," said Cpl. James D. Freeman, a

rifleman and a native of Woodberry, Tenn., who spent the latter half of his deployment in Angell's platoon. "He's just another Marine who knows how to fix people better than we can."

Angell's platoon leader said he also felt he was one of the best Navy corpsman he's seen in his 17 years in the Marine Corps.

"Doc Angell is a constant professional; they broke the mold with that guy," said Staff Sgt. Ysidro R. Gonzalez, Angell's platoon sergeant during the deployment. "Doc Angell never hesitated under fire, and I believe that his devotion and dedication to his Marines is what drove him in the eyes of the

enemy to perform the way he did. He never once thought of himself; he always thought of his Marines, no matter what was on their collar, and for the Afghans as well. I just can't say enough good things about that kid."

The ceremony brought out many different emotions from fellow service members in attendance, but the most commonplace was pride.

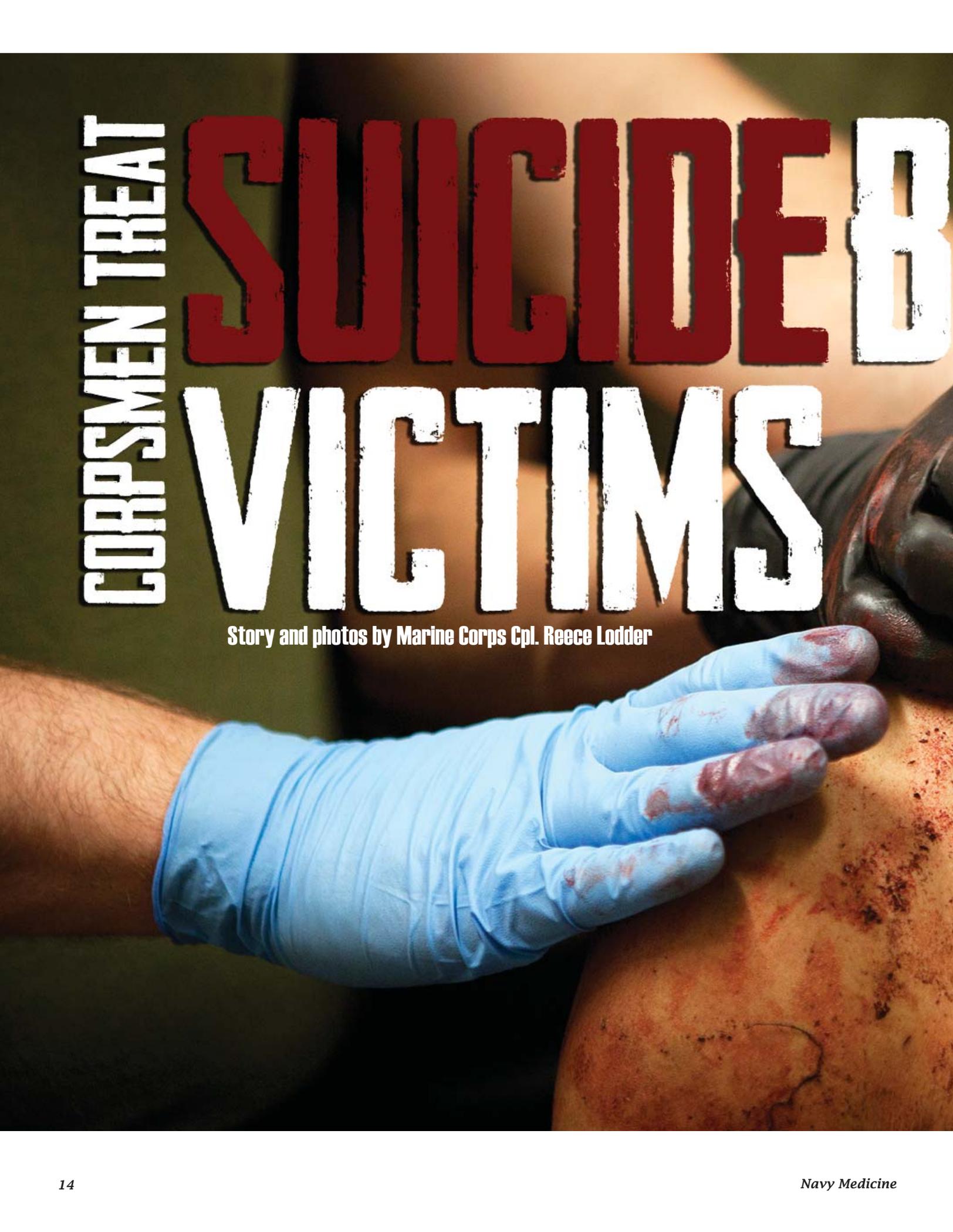
"It made me feel very proud of that kid," said Gonzales, a San Diego native. "I'm very proud of him and proud to know him and (to) have been a small paragraph in Doc Angell's life. The only other way I can describe it is like a father watching his son graduate (recruit training) or something. Doc Angell is a great American; he saved a lot of lives. Everybody always talks bad about the kids of this generation, your youth and all that, and how they don't measure up to everything else, but whoever says those things have never seen a young man like Doc Angell in combat."

Marines in Angell's squad describe him as confident in his medical abilities, a people person, and, most importantly, someone who made them feel safe on patrol.

"I'd say Doc Angell was there for me every time we stepped outside the wire," said Lance Cpl. Timothy J. Hagem, a mortarman in Angell's platoon during the deployment. "He loved to take care of his Marines. When he came up and helped Rumbaugh out, I was there for that. I'd say it was a combination of his duty and love of his Marines. Yes, he knew he had to do his job as a corpsman, but he had the drive of like, 'I'm not just doing this as a corpsman, I'm doing this because these guys are my friends. Yeah, I want come home, but I want to see these guys come home just as much.' If you love that person who's hurt, you're going to get there no matter what, and Doc Angell and Rumbaugh are real close."

Angell acted with complete disregard for his own personal safety, and his actions are a testament to his devotion to the Marines he served, but he humbly attributes his successes to those around him.

"This is not an individual award," said Angell. "Even though it was awarded to me, this is for all of my Marines; because they did their jobs, I was able to do mine."+



# CORPSMEN TREAT SUICIDED VICTIMS

Story and photos by Marine Corps Cpl. Reece Lodder



**T**he sounds from a controlled flurry of medical activity drifted through a narrow hallway packed with patients, stretchers and U.S. Navy corpsmen, funneling their calm conversations and unbreakable focus into the buzzing aid station.

Faced with a mass casualty situation following an attack by a suicide bomber in southern Helmand province's Garmsir district, corpsmen with 3rd Battalion, 3rd Marine Regiment treated eight wounded Afghan National Policemen, April 19.

Shortly after the attack, which targeted the police precinct headquarters in the Lakari region of Garmsir, the Afghan police transported 10 wounded men to the nearest coalition forces position, Combat Outpost Sharp. Initially triaged by three Navy corpsmen from Kilo and Weapons Companies, 3rd Bn., 3rd Marines, the policemen's injuries demanded advanced care.

Due to adverse weather conditions, no air medevac assets were immediately available so the ANP transported eight of the casualties by vehicle to Forward Operating Base Delhi.

"Many of our corpsmen went through most of their deployment without having to respond to a serious incident," said Navy Chief Hospital Corpsman Christopher Arredondo, the senior enlisted medical department representative for 3rd Bn., 3rd Marines, and a 27-year-old native of Duarte, Calif. "They were grateful they didn't have to exercise their trauma skill set because this meant none of their Marines had been injured."

Then, without notice, Arredondo said the corpsmen had to "step up and shine."

At FOB Delhi, the team of 28 Navy medical providers received the wounded Afghan police and began treating them in the battalion aid station.

Seaman Robert Ortiz was among these corpsmen. The situation was the first combat-related incident to which he had the opportunity to respond.

**Navy Hospital Corpsman 3rd Class Benjamin Knauth (blue), a 29-year-old native of Centennial, Colo., and Navy Hospital Corpsman 2nd Class Dustin Koch, a 26-year-old native of Las Cruces, N.M., Navy corpsmen with 3rd Battalion, 3rd Marine Regiment, place reassuring hands on the shoulder of an Afghan National Policeman while examining his injuries in the battalion aid station here following an attack by a suicide bomber in Helmand province's Garmsir district, April 19.**



**An emotional Afghan National Policeman recovers outside the battalion aid station here after he was injured in an attack by a suicide bomber in Helmand province's Garmsir district, April 19. The 3/3 Navy corpsmen treated eight injured Afghan policemen after being faced with a mass casualty situation following the attack on an ANP precinct headquarters in the region.**

“We prepare for this type of situation in training, but you can’t fully prepare for how it actually feels,” said Ortiz, a 22-year-old native of Orlando assigned to 3rd Bn., 3rd Marines’ Trucks Platoon. “I had to fight my adrenaline from taking over ... to slow down, take a breath and depend on my training.”

Crowded by necessity, the already-tiny room shrunk around bloodied men lying on makeshift trauma tables. Teams of corpsmen huddled closely around their patients, pouring countless hours of knowledge and training into their efforts to stabilize them.

Pungent odors of latex, sweat and bodily fluids filled the cramped room. The stagnant air cooked it to an uncomfortable temperature, but the corpsmen’s focus and steady hands proved them unaffected by the challenging setting.

In the moment, Navy Hospital

Corpsman 2nd Class Dustin Koch, the senior line corpsman with 3rd Bn., 3rd Marines’ Jump Platoon, said he didn’t even notice people hustling in and out of the room.

“We were just focused on the patients we had in front of us ... it didn’t matter who they were or where they were from,” said Koch, a 26-year-old native of Las Cruces, N.M. “If we paid too much attention to everyone moving around us, we could risk losing focus on our patients and begin missing steps in treating them.”

Directed by their battalion surgeon, Navy Lt. Sean Stuart, team leaders worked with their two corpsmen to treat wounds, announce vital signs and determine priority of care. Recorders received the information and scratched it onto medical charts plastered on clipboards. Each team member kept their patients

engaged by reassuring them through interpreters.

“Nothing is routine in a mass casualty situation,” said Stuart, a native of Sugar Hill, Ga. “Our corpsmen have learned medical basics, and practiced communication and mass casualty drills. We can absolutely prepare for this type of situation, but no matter how much we do, each has its own unique challenges.”

Once weather conditions improved, medevac helicopters arrived under the cover of darkness and transported six of the ANP casualties to Camp Dwyer’s Casualty Support Hospital for further treatment.

Despite the terrible circumstances requiring the employment of their skills, the 3rd Bn., 3rd Marines Navy corpsmen were thankful for the opportunity to preserve the lives of their Afghan



**Navy Hospital Corpsman 2nd Class Randy Ball (center), a Navy corpsman with Headquarters Platoon, Kilo Company, 3rd Battalion, 3rd Marine Regiment, and a 23-year-old native of Mamou, La., is aided by fellow Navy corpsmen while using an ultrasound machine to search an Afghan National Policeman for internal injuries in the battalion aid station here after he was injured in an attack by a suicide bomber in Helmand province's Garmisir district, April 19.**

brethren.

“At the lower levels of leadership, it’s a challenge to understand the big picture changes happening in Afghanistan — like how we’ve helped the Afghan forces stand on their own,” Koch said. “This situation allowed us all to see the immediate difference we’ve made.”

Editor’s Note: Third Battalion, 3rd Marine Regiment, is currently assigned to Regimental Combat Team 5, 1st Marine Division (Forward), which works in partnership with the Afghan National Security Forces and the Government of the Islamic Republic of Afghanistan to conduct counterinsurgency operations. The unit is dedicated to securing the Afghan people, defeating insurgent forces, and enabling the ANSF assumption of security responsibility within its operations in order to support the expansion of stability, development and legitimate governance. +



**Navy Hospital Corpsman 3rd Class Christopher Jones (left), 4th Platoon, Kilo Company, 3rd Battalion, 3rd Marine Regiment, and a 22-year-old native of Clinton, Miss., bandages an Afghan National Policeman’s arm outside the battalion aid station here after he was injured in an attack by a suicide bomber.**



# MINE-RESISTANT AMBULANCE TRAINING

Story and photos by Jeff Drew | 2nd Marine Division

The Force Protection Cougar Ambulance, a modified mine-resistant, ambush-protected vehicle, was designed specifically for the Marine Corps for timely and efficient medical evacuation. The vehicle is useful in a combat zone for effectively transporting casualties when an aerial medical evacuation is unavailable.

**S**ailors with 2nd Marine Division gathered recently to learn about new medical advancements in vehicles being deployed to combat zones.

The Force Protection Cougar Ambulance, a modified mine-resistant, ambush-protected vehicle, was designed specifically for the Marine Corps for timely and efficient medical evacuation.

“They needed a protected platform to transport casualties, especially when air support is limited,” said Killeen, Texas, native Joe Surette, a retired Army medic of 26 years and an instructor during the ambulance training. “From the point of injury, you have a limited time to get them to a surgeon and to more advanced care. It’s not just an ambulance, but it also has armored protection

where you can treat people, instead of out in the open in a combat zone.”

The ability to provide care for a casualty during transport on a medically equipped vehicle enhances the patient’s potential for recovery and may reduce long-term disability.

The cougar ambulance is currently equipped with a wide range of medical capabilities. The vehicle’s seating configuration has the ability to transport a medical assistant with either two casualties on stretchers and one ambulatory patient able to sit or one casualty on a stretcher and four ambulatory patients able to sit. The ambulance is also supplied with one supplement en route care bag that contains airway/breathing management, hemorrhage control, splinting and burn care supplies. In case a convoy comes under attack, the vehicle also contains two pre-configured combat casualty care bags, which include hemo-

static dressings and surgical airway supplies that allow for hemorrhage control. All of these tools play a large part in aiding casualties in a combat situation.

“I rolled up to Baghdad in 2003 during Operation Iraqi Freedom One and I was the medical platoon sergeant,” said Surette. “The vehicles were soft-skinned Humvees – this was before the [improvised explosive devices]. The enemy realized they couldn’t match us in firepower so that was the evolution of the IED. Once they started engaging in those tactics ... these vehicles, if we already had them, would have probably saved hundreds of lives.”

One Navy corpsman at the training who recently returned from a deployment to Afghanistan with 2nd Light Armored Reconnaissance Battalion, 2nd Marine Division, mentioned how useful the supplies inside the modified MRAP would be in a combat zone.



San Antonio native Kevin Gillin (left), a retired Army medic of 25 years and an instructor of the Force Protection Cougar Ambulance training, shows Sailors with the 2nd Marine Division how to properly strap a simulated casualty to a stretcher. The training included moving stretchers from a simulated combat zone to a medical vehicle quickly and efficiently.



The Sailors trained to load and unload simulated casualties from the vehicle as well as get hands-on experience with the vehicle's medical supplies.



Hospital Corpsman 3rd Class Brian Laverentz straps a simulated casualty to a stretcher during training. Sailors with the 2nd Marine Division learned about the tools and supplies available on the Force Protection Cougar Ambulance, a modified mine-resistant, ambush-protected vehicle.

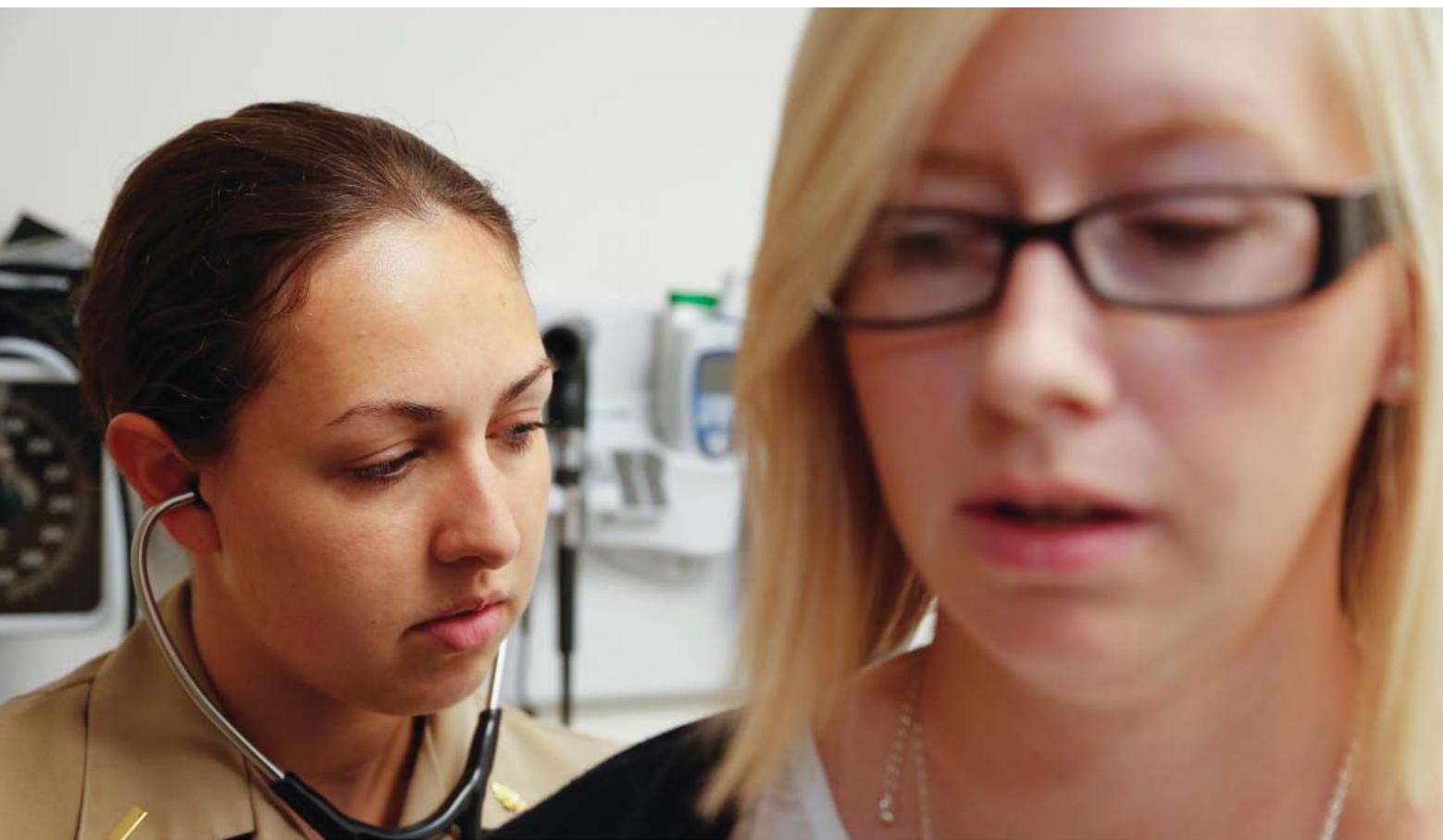
“If I had the tools available inside of one of these, it would help out a lot,” said Navy Hospitalman Dylan Salvatore. “This would be very good in a convoy if something happened and a lot of people were injured. You’d be able to take care of them and get them to an area where

an aerial [medical evacuation] would be available.”

The training ended with the Sailors loading and unloading simulated casualties on and off the vehicle, testing the skills they learned throughout the day.

“This training is very useful for

junior Navy corpsmen because it keeps them thinking and helps them create their own style of care,” Salvatore mentioned. “They need to always be thinking about what they have available to them and this shows them the tools that they have.”+



# COLLABORATION DRIVES CHANGE

By Tami Begasse | Naval Hospital Jacksonville Public Affairs

**Above - Uniformed Services University of the Health Sciences medical student Sarah Anderson performs a routine check up on a Naval Hospital Jacksonville patient, May 25. As part of her medical rotation, she is participating in a one-month family medicine clerkship in NH Jacksonville's Family Medicine Clinic. (Photo by Hospitalman Jason James)**

Sharing information and expertise has long been recognized as driving both individual and organizational change. True innovation is virtually impossible without collaboration. Business leaders across all industries recognize this. And the health care industry is no exception.

Naval Hospital (NH) Jacksonville Commanding Officer Capt. Lynn Welling, like his predecessors, has led collaborative efforts to drive positive changes in the Florida region to tackle issues from patient safety to the abuse of prescription pain medication.

“Exclusivity, hierarchy and solitude do not drive positive change,” said Welling. “And collaboration,

both internal and external, is vital to enabling improvement in health care organizations.”

NH Jacksonville embraces collaboration. The health care facility’s annual Patient Safety Symposium brings together national and regional health care leaders to advance patient safety. At its event held earlier this year, Baptist Health Chief Medical Officer Keith Stein, M.D.; Mayo Clinic in Florida Chief Executive Officer William Rupp, M.D.; Distinguished Professor and Director of the Center for Global Health and Medical Diplomacy at the University of North Florida Yank Coble, M.D.; University of Florida College of Medicine Professor

of Surgery and Pediatrics Joseph Tepas, III, M.D.; Chairman and CEO of Virginia Mason Medical Center Gary Kaplan, M.D.; and Welling focused on advancing reliability and patient outcomes in health care.

“Individually and collectively, health care organizations in Northeast Florida have made significant progress in recent years,” said Coble. “And the Center for Global Health and Medical Diplomacy at the University of North Florida and Quality Collaborative of Northeast Florida are pleased to support and honored to participate in Naval Hospital Jacksonville’s important annual event to enhance patient care and our region of medical excellence.”

The symposium, which kicked-off National Patient Safety Awareness Week, brought together more than 200 health care experts to address the inherent challenges and risks in practicing medicine.

In addition, Naval Hospital Jacksonville hosts an annual Deployment Mental Health Symposium, aimed at helping its civilian counterparts meet the needs of service members returning from combat tours. The event on Dec. 8 and 9, 2011 included 125 clinicians from all aspects of the care continuum—military, Veterans Affairs and civilian—dedicated to improving mental health care, as well as combat veterans sharing first-hand accounts of their

experiences. It’s important that providers who haven’t themselves been in the fight can support patients who have.

Another collaborative effort NH Jacksonville is actively involved in is the implementation of a set of guidelines for treating chronic or recurrent pain through the Quality Collaborative of Northeast Florida’s Rational Prescribing of Pain Medication Task Force. In September 2011, Welling and members of the Collaborative announced the development of a set of voluntary emergency department (ED) guidelines to address the ever-increasing abuse of prescription pain medication abuse in northern Florida. NH Jacksonville was first to roll out the guidelines in its ED, Oct. 1, 2011.

“The Quality Collaborative’s prescription pain medication initiative is a great demonstration of how the military and civilian sectors work together,” said Welling. “We need to be able to work together to create solutions that not only work for the civilian sector or the military sector but our communities as a whole.”

Coble, director of the Center for Global Health and Medical Diplomacy at the University of North Florida couldn’t agree more. “The power of this initiative is that it captures the grassroots, innovative projects resulting from the collaborative efforts

**Naval Hospital Jacksonville, home to the Navy’s largest Family Medicine Residency Program, graduates its 2011 class of residents at the NAS Jacksonville Officers Club. NH Jacksonville was named the 2011 Family Medicine Clinical Site of the Year by the Uniformed Services University of Health Sciences. (Photo by Hospital Corpsman 1st Class Scott Morgan)**





Director of the Center for Global Health and Medical Diplomacy at University of North Florida Yank Coble wraps up Naval Hospital Jacksonville's Patient Safety Symposium as NH Jacksonville Commanding Officer Capt. Lynn Welling looks on. Coble encouraged the 200 clinicians and health care leaders in attendance—from both the Navy and private sectors—to continue to provide the world's best healthcare based on caring, ethics and science. (Photo by Mass Communications Specialist 2nd Class Gary Granger)

across private and public sector health care facilities, public health organizations and academic experts in the Quality Collaborative of Northeast Florida," he said. "The adoption of guidelines across our region to help ensure patients are receiving the appropriate pain medication while helping to tackle abuse is a very important step we are taking."

NH Jacksonville's work spearheading this effort earned Welling the Duval County Medical Society (DCMS) Distinguished Service Award for outstanding leadership and exemplary stewardship of the pain medication initiative. DCMS is Florida's oldest

medical society.

"Duval County Medical Society has long played a critical role in bringing together leaders in medicine to focus on national and regional issues and the collective challenges health care providers face daily in their efforts to provide quality health care to patients throughout the region," said Welling.

He went on to say how he, on behalf of all the Quality Collaborative members, was especially pleased that the task force efforts were recognized.

The positive change NH Jacksonville is driving is not exclusive to its community partnerships, it

"The **power** of this initiative is that it captures the **grassroots**, innovative projects resulting from the **collaborative** efforts across private and public sector health care facilities, public **health** organizations and academic experts in the Quality Collaborative of Northeast Florida."

- Yank Coble, director of the Center for Global Health and Medical Diplomacy at University of North Florida

Jacksonville has built an infrastructure to support evidence-based practices across its hospital and five branch health clinics as well as civilian and military medicine nationwide.

Upon graduation, its residency program physicians rotate at the University of Florida Shands Hospital and Wolfson Children's Hospital, gaining experience in trauma, emergency medicine, critical care and pediatrics. Nurses participating in its Certified Registered Nurse Anesthetist Program and Perioperative Nurse Course get real-life experience with high-acuity patients at facilities including Shands, Flagler Hospital, and Kosair Children's Hospital (ranked among the top children's hospitals nationwide). Additionally, collaborating with Shands (since 1998) and Orange Park Medical Center (since 2011), up to 18 nurses participate in two-week rotations to gain hands-on experience with emergency, trauma and critical care patients. Through its training agreements, health care students throughout the region work alongside NH Jacksonville staff as well, from physical therapy students from University of North Florida to family medicine residents from Mayo Clinic. And through a recent agreement with Orange Park Medical Center, surgeons from NH Jacksonville are able to perform surgeries at Orange Park using its breakthrough surgical technology, the da Vinci System. The collaborative agreement allows NH Jacksonville surgeons to perform minimally invasive surgeries for complex procedures including prostatectomy and hysterectomy at Orange Park using its innovative system.

So whether NH Jacksonville is partnering to enhance patient safety, tackling pressing regional issues or nurturing health care professionals, the command's ongoing collaboration remains focused on ensuring its 57,000 enrolled active duty and retired Sailors, Soldiers, Airmen, Marines and guardsmen and their families receive the highest quality care.

"We're here to heal our nation's heroes," said Welling. "And our partnerships are one of the many ways we ensure our heroes get the best care." +

is evident in the approach the command of 2,500 military and civilian employees takes in nurturing current and future health care professionals.

From its award winning Family Medicine Residency Program—the Navy's largest—to its more than 100 training agreements with local and national universities, colleges and medical organizations, NH Jacksonville understands the value collaboration plays in ensuring its doctors, nurses and medical technicians are able to provide the most sophisticated care available in any environment. Through its professional education and research programs, NH

# SAVE LIVES

By Hospitalman Dillon Winstead | Naval Hospital Camp Lejeune

**Another summer day on Marine Corps Base Camp Lejeune, the sun is high and the heat continues to rise along with humidity in the air. A group of Marines have been engaged in group physical training for over an hour with short periods of rest despite these inclement conditions.**



**U.S. Navy personnel with Camp Johnson Branch Medical Clinic pour ice and water onto a simulated heat casualty as part of Hot Weather Standard Operating Procedures (HOTSOP) training, aboard Camp Johnson, N.C., April 11. HOTSOP training was conducted to prepare for the upcoming heat casualties in the summer months. (Photo by Marine Corps Lance Cpl. Bryce J. Burton)**

One of these young Marines in particular has been ignoring his canteen and after over an hour of strenuous exercise is beginning to feel nauseous, his breathing is becoming weak and his heart is beating rapidly. He feels disoriented and his shirt and skin is drenched with perspiration. He becomes weak

and unsteady on his feet.

As two Navy corpsmen notice and start towards the Marine to assess him, he falls over flat on his face and the two jump into action. One grabs his medbag from inside the truck and starts to run towards the Marine. The other goes to the back of the truck where the coolers are packed with ice, cold water,

two bed sheets and two towels. He grabs a cooling unit that contains ice-water sheets and towels and he runs towards the field where the other corpsman has already checked the Marine's rectal temperature and verified his airway. He whispers, "108 degrees," to the other as he starts to cut away the Marine's shirt, "Good to go. Let's start the 'burrito' method."

Although the above is only a hypothetical situation, the treatment is all but hypothetical. The "burrito" method is when one Navy corpsman wraps the ice-water sheet around the unconscious Marine's body, leaving the head exposed, and the other wraps the towel around the Marine's head. After 30 to 60 seconds they put the sheet and towel back in the ice-water and quickly grab the other ice-water sheet and towel and rewrap the Marine. The Marine would then be loaded into the safety vehicle where the ice-water sheet and towel cycle continues, and the rectal temperature is assessed every five minutes until the Marine cools to 102 degrees. The safety vehicle meets the ambulance and turns over the now "normal" Marine for transport to the Naval Hospital, where he would be evaluated for his Exertional Heat Injury (EHI), which in this case was a heat stroke.

Because of the education and efforts by Naval Hospital Camp Lejeune's branch medical clinic staff, and the partnership with the II Marine Expeditionary Force (MEF) the treatment methods for EHI have significantly improved; saving lives. Tactical vehicles now maintain coolers loaded with ice water, bed sheets, and towels.

"On the grounds of each branch clinic, an EHI treatment station was built by NHCL Facilities Management Department," said Director of the Directorate of Branch Clinics (DBC) Navy Cmdr. Lynn Carlton "The area was built to ensure the quick and thorough treatment of EHI injuries, and safety of the corpsmen treating the patients."

The treatment stations are self-contained and consist of the EHI treatment supplies, a wooden platform and a camouflage netting to provide shade for the patient and staff.

"The wooden heat deck platforms



Naval Hospital Camp Lejeune Camp Johnson Branch Medical Clinic staff provide cooling to simulated heat casualty during part of Hot Weather Standard Operating Procedures (HOTSOP) training aboard Camp Johnson, N.C. April 11. (Photo courtesy of Lt. Cmdr. Timothy Drill)

**“Using spray bottles and fans for treating exertional heat stroke takes one hour to cool from 108 degrees to 102 degrees. When using ice and water, it takes 15 to 20 minutes.”**

- Navy Capt. Steven Blivin, II Marine Expeditionary Force Surgeon

were built to be ergonomic attentive,” noted Navy Lt. Cmdr. Timothy Drill, the department head of the Camp Johnson Branch Medical Clinic and facilitator for the construction of the platforms.

Heat stroke patients are checked for a rectal core temperature. Patients whose temperatures are over 102 degrees Fahrenheit are cooled with a “burrito” or “taco” method, vice spraying water and using fans.

In addition to the “burrito” method used above, the “taco” method is more commonly used when there is a water spigot available. The Marine is placed on a sheet with ice packed around the Marine, and additional corpsmen hold the sides of the sheet upwards similar to a taco to hold the ice close to the Marine. The corpsman then lightly sprays the Marine with water from a hose. A corpsman assesses the Marine’s rectal temperature every five minutes.

“Morbidity and mortality are directly linked to time and temperature,” said II MEF Surgeon Navy Capt. Steven Blivin, who spearheaded the change in EHI treatment methods as the senior medical officer for NHCL’s branch medical clinics in 2009. “Using spray bottles and fans for treating exertional heat stroke takes one hour to cool from 108 degrees to 102 degrees. When using ice and water, it takes 15 to 20 minutes.”

Although these treatments have been utilized throughout the NHCL’s six branch medical clinics for the past three years, recently, Navy Hospital Corpsman 3rd Class Michael Wilson began leading a team of branch clinic staff who train II MEF corpsmen and clinicians.

“The DBC spearheaded this process improvement initiative to promote a high quality of care for EHI treatments,” noted Drill. “We plan to implement training and education throughout the commands aboard Camp Lejeune and Marine Corps Air Station New River.”

The branch medical clinics also developed a Hot Weather Standard Operating Procedures (HOTSOP) video led by Drill and illustrated by Navy Hospital Corpsman 2nd Class Anthony Turner. This EHI video details heat injuries and how to prevent them, and is a



**An area with ergonomic wooden platforms under a camouflage netting that creates a cool, shady area, was built by Naval hospital Camp Lejeune's Facilities Management Department at each branch medical clinic for staff to use when treating heat injuries. U.S. Navy photo (Photo courtesy of Lt. Cmdr. Timothy Drill)**

great baseline to start for the training.

“Through strong relationships, the Naval Hospital and (Capt. Blivin) collaborated on this initiative to ensure the high quality of training for all Navy corpsmen throughout the Naval Hospital and II MEF,” explained Carlton. “Although it is only spring, we are already seeing heat injury casualties. Our education and treatment methods have decreased the number and the severity of heat injury casualties.”

Blivin agrees that the prevention training works noting that the number of Camp Lejeune area Marines with heat strokes, particularly the number of Marines treated during outpatient visits and hospitalizations has significantly decreased.

An EHI is a common injury to Marines and Sailors exerting themselves in hot, humid, low wind environments. EHI is affected by multiple contributing factors relating heat loss to metabolic and environmental heat accumulation. Environmental risk factors can include

exertion in high wet bulb globe temperatures (WBGT), wearing restrictive clothing or equipment, competition, peer pressure, or when individuals are pushed beyond their ability. There are also personal risk factors such as fatigue and stress, inadequate nutrition and hydration, medications and supplements, pushing beyond comfortable physical exertion, working out beyond a safe level of physical training, voluntary dehydration, prior EHI's, or if a Marine or Sailor uses laxatives and diuretics for rapid weight loss.

The spectrum of EHI ranges from simple heat cramps to life threatening heat stroke. Heat stroke is a severe, life-threatening condition, resulting in a total failure of the thermoregulatory mechanism causing an excessive rise in body temperature.

The best way to understand a heat stroke and to recognize the differences between heat exhaustion and heat stroke is to know the signs and symptoms. The signs and symptoms of heat exhaustion

and heat stroke can be identical — respirations may be deep and rapid at first, then shallow and almost absent. Nausea, dizziness, and weakness can occur. Heat stroke is a less common but more serious medical emergency due to its 10% to 20% mortality rate in patients treated with methods not involving ice. The major difference is that heat stroke may involve a change of mental status - disorientation, combativeness, or unconsciousness.

Most heat strokes occur during physical fitness tests (PFT's), unit runs of three miles or less, unit marches of six miles or less, and field activities.

Prevention is key. Proper fluid intake, a balanced diet, wearing proper clothing (non restrictive - where air circulation is allowed especially at your waist, neck, and lower legs), proper acclimatization, and following the Marine Corp Base's Heat Condition Flag Warning System all mitigate EHI risk. +

*Deputy Public Affairs Officer Anna Hancock contributed to this article.*



# PACIFIC PARTNERSHIP 2012 COMPLETES FIRST MISSION

By Mass Communication Specialist 2nd Class  
Kristopher Regan | Pacific Partnership Public Affairs

Pacific Partnership 2012 Mission Commander Capt. James Morgan looks on as an MH-60S Seahawk delivers various medical and dental supplies to the island of Siau. Now in its seventh year, Pacific Partnership is an annual U.S. Pacific Fleet humanitarian and civic assistance mission. U.S. military personnel, host and partner nations, non-governmental organizations and international agencies designed to build stronger relationships and develop disaster response capabilities throughout the Asia-Pacific region. *(Photo by Mass Communication Specialist 3rd Class Laurie Dexter)*



**P**acific Partnership 2012 (PP12) completed its first mission port in North Sulawesi, Indonesia, on June 15.

Aboard the Military Sealift Command hospital ship USNS Mercy (T-AH 19), the PP12 team of more than 1,200 crew spent 15 days traveling between Manado and the three islands of Sangihe, Talaud, and Siau.

The multinational, multi-organizational crew of host and partner nations, and non-governmental organizations (NGOs) worked in the fields of medical and dental, veterinarian, civil engineering and subject matter expert exchanges. They also conducted community service in the areas of sports and recreation, donated items and performed band concerts and clinics.

“I believe the key to our success was our ability to bring people together in a focused effort,” said Capt. James Morgan, PP12 Mission Commander. “We have accomplished a great deal in two weeks time.”

The mission participated in 11 major subject matter expert exchanges involving more than 1,000 Indonesian specialists, allowing this year’s mission to continue building on established best practices for all the countries involved.

According to Morgan, nearly 200 surgeries were conducted; four major engineering projects stood up; over 2,300 livestock and pets received veterinary care; and, over 9,000 local citizens received medical evaluations and treatments in Manado and on the outer islands.

The crew also conducted cultural exchanges and community service with local citizens by playing sports, reading with children, transporting donated supplies, and conducting 10 music concerts and clinics performed by the U.S. Pacific Fleet Band.

The goal of PP12 is to take part in a humanitarian and civic assistance mission that brings together U.S. military and civilian personnel, host and partner nations, non-government organizations and international agencies to build stronger relationships and develop disaster response capabilities.

**Hospital Corpsman 2nd Class Kristen Forsgren, rubs the head of a four-month-old Indonesian girl that came out of surgery to fix her cleft lip aboard the hospital ship USNS Mercy (T-AH 19) during Pacific Partnership 2012. (Photo by Kristopher Radder)**



Chief Hospital Corpsman Francis Aguigui talks to Indonesian children at a medical civil action project during Pacific Partnership 2012. (Photo by Kristopher Radder)

**“I believe the key to our success was our ability to bring people together in a focused effort,”**

- Pacific Partnership 2012 Mission Commander Capt. James Morgan

“Pacific Partnership in Indonesia brought together the very best military, humanitarian, governmental and non-governmental agencies and organizations that our countries and the international community as a whole have to offer,” Morgan said. “I couldn’t be more proud.”

Working together as an integrated team and at the invitation of the Indonesian government, Indonesia military and civil service personnel worked alongside the partner nations of Australia, Canada, France, Malaysia, and the United States; the NGOs of Global Grins, Hope World Wide, Johns Hopkins University Medicine, Latter Day Saints Charities,

Project Handclasp, Project Hope, Univ. of California San Diego Pre-Dental Society, University of Hawaii Schools of Engineering and Nursing, and World Vets; and, Joint and Interagency teams from the United States Army, Air Force, Marine Corps and Navy, Departments of State, Justice, National Oceanic and Atmospheric Administration, and the U.S. Agency for International Development. Approximately 70 professional civilian mariners also ensured the safety and navigation of the USNS Mercy.

The remaining Pacific Partnership 2012 mission ports include the Philippines, Vietnam and Cambodia. Through active engagement with host nation officials and militaries, subject matter expert exchanges, civil action projects and medical exchanges, the mission will continue to build the regional partnerships and collective abilities needed to respond to natural disasters.

Sponsored by the U.S. Navy Pacific Fleet and now in its seventh year, Pacific Partnership is the largest annual humanitarian civic assistance mission in the Asia-Pacific Region. ✚



Lt. j.g. Bennie Sumner holds the hand of an Indonesian child before surgery in an operation room, June 5, aboard the Military Sealift Command hospital ship USNS Mercy (T-AH 19) during Pacific Partnership 2012. (Photo by Mass Communication Specialist 3rd Class Michael Feddersen)



Military Sealift Command hospital ship USNS Mercy (T-AH 19) sits just outside of the port of Sangihe on June 3. (Photo by Kristopher Radder)



Corpsman 1st Class Vude Rosario explains to an Indonesian man the process of a Computerized Tomography (CT Scanner) aboard the Military Sealift Command hospital ship USNS Mercy (T-AH 19), June 2. (Photo by Kristopher Radder)

Left - Cmdr. Brice Nicholson consults with a patient after cataract surgery in an operating room aboard the Military Sealift Command hospital ship USNS Mercy (T-AH 19) during Pacific Partnership 2012. (Photo by Mass Communication Specialist 3rd Class Michael Feddersen)



**The Marine Corps Helicopter Squadron One (HMX-1) Medical Department poses in front of the VH-3D helicopter, which serves as one of the “White Tops” that are known as “Marine One” when the President of the United States is on board. (Photo by Marine Corps Cpl. Daniel Wetzel, Defense Media Activity)**



its destination.

The image of a Marine saluting the President as he is exiting the “white top” aircraft -- known as Marine One when the Commander in Chief is on board -- is as much an image of the Nation’s capital as the Lincoln Memorial or the Potomac River.

Marine One is part of a fleet of helicopters that are maintained, flown and protected by Marines from the HMX-1 squadron. These Marines perform integral missions, including the one that uses the White House lawn as its landing pad. But without a small contingent of Sailors attached to the historic squadron, their jobs might not get done.

The medical component to HMX-1, which stands for Marine Corps Helicopter Squadron One, is made up of Sailors who fill the roles of flight surgeon, aerospace physiologist, clinical psychologist, independent duty corpsman, aerospace medicine technicians, Fleet Marine Force corpsmen and

hurring blades from a VH-3D helicopter cut through the D.C. skyline, flop-flop-flop, leaving the Washington Monument in its rear with the pristine South Lawn of the White House

aerospace physiologist technician. Together, these medical personnel keep the nearly 1,000 Marines in the unit and Marine Corps Air Facility ready to fly, maintain, protect and serve.

“HMX-1 is the largest squadron in the Marine Corps and the size of a small Marine Air Group,” said Navy Cmdr. Andrew Rusnak, HMX-1 flight surgeon. “We have a variety of specialists on the medical team that all have an important role in the mission.”

Much like the squadron’s variety of missions -- from Presidential support to overseas operations -- their medical department provides services across the medical-care spectrum. They are located near the squadron flight line, which allows easy access to the Marines they serve.

“While in garrison, we conduct most of our medical business in our newly built 7,000 sq. ft. medical and dental facility located in the squadron hangar,” Rusnak said. “As a result of our location, vigilant corpsmen, and support of the commanding officer, we consistently have the highest medical readiness of any squadron I’ve been a part of.”

Similar to the overall Navy Medicine enterprise, Navy corpsmen serve as the backbone to the HMX-1 medical department. As they hone their skills and



grow in their roles, they are given more opportunities by their leadership.

“Corpsmen perform various medical duties found in a primary care clinic, audiograms, vision testing, blood draws, and initial diagnosis and assessment of patients,” said Rusnak. “They also learn important didactic skills under the guidance of an IDC or Flight Surgeon, such as toe nail removals, abscess incisions as well as suturing skills. As corpsmen demonstrate good medical judgment, we give them additional responsibilities and independence, eventually they will be allowed to travel as the sole medical contingency support for a squadron detachment (stateside or overseas).”

As responsibility grows so do the variety and number of tasks a corpsman is assigned. It is imperative that corpsmen continue to learn while working as a team.

“Fight like you train and train like you fight’ has been our motto at the medical department,” said Hospital Corpsman 2nd Class Rosalind Thomas, assistant lead petty officer. “All corpsmen are expected to have hands-on patient care. When there’s an interesting case, we all learn from the experience. For example, one time a Marine sustained a large laceration to his scalp. We had six different corpsmen each

place one staple to close his wound (as a learning experience), so we truly work as a team.”

With such diverse missions, medical staff has an opportunity to perform unusual treatments outside of clinical hours. This was the case when a hospital corpsman assisted in a dental accident.

“We often transport our helicopters on large cargo transport planes to our destination and loading/off-loading has the potential of injury if the Marine is not careful,” said Hospital Corpsman 2nd Class Erin Castillo. “A Marine was tying down a cargo strap when the buckle accidentally came undone and knocked out his front tooth. Knowing a tooth can be saved if replaced in the gum line in a timely manner, I asked for the tooth to see if I could secure it until a Dentist could be found -- only to find out the Marine had inadvertently spit it out and flushed down the toilet.”

Although the tooth was not preserved, the squadron benefits from knowledgeable corpsman like Castillo. Along with emergency situations, corpsman must be able to explain why they must perform certain therapies or procedures. This was the case when one normally fearless Marine became nervous around a needle.

“The Marine had never had an I.V. before and

**Hospital Corpsman Lance Lopez, outside of performing all of his duties as a corpsman, is also training to be the first Navy crew chief in squadron history. (Photo by Marine Corps Cpl. Daniel Wetzel, Defense Media Activity)**



**Hospitalman Nathan Edwards, treats a Marines injured ankle at the HMX-1 medical department clinic.** (Photo by Marine Corps Cpl. Daniel Wetzels, Defense Media Activity)

was hurting pretty bad -- very dehydrated and very sick,” said Hospital Corpsman 2nd Class Andrew Gibson, aviation medical technician. “He came in and was very adamant about not being stuck with a needle. So we got everything ready without him seeing it. As soon as he heard the cap come off the needle, he passed out. We woke him back up using ammonia and he was stable. We let him know why we had to do the therapy. We got the stick on the first time and gave him the I.V. We gave him about two bags and he came back the next day feeling much better and apologized for passing out.”

While some of the memorable stories from the medical team can be lighthearted and involve somewhat routine medical therapies and procedures, a Marine pilot’s experience with the medical staff was anything but ordinary.

“I checked back into the squadron last August, but I was here from 2001 to 2005,” said Marine Lt. Col. Mike Kaminski, VXX Operation Test Team office. “I traveled extensively during that four-year timeframe and saw the benefits of having an embedded medical department.”

The pilot’s first-hand experience with the medical department included some possibly life-saving news from the Navy flight surgeon.

“I was diagnosed with cancer last December and it was ‘Doc’ Rusnak (who made the diagnosis),” Ka-

minski said. “At first we had no idea what it was, so we got an MRI done. I benefitted significantly from the medical team.”

Many of the members of HMX-1, including Kaminski, praise the easy access to and timeliness of care from the medical team.

## What to know about serving with the HMX-1 Medical Department

- 1) You must volunteer. Only Sailors and Marines that desire to be involved in Presidential Support Duty will be considered for orders at HMX-1. Everyone that comes here is because they want to be here and which is in alignment with their career goals.
- 2) You must be approved for Presidential Support Duty.
- 3) If anyone is interested in applying to HMX-1 Medical Department and has an approved NEC, they can contact their detailer or HMX-1 Medical directly (HMC Michael Cotton, Michael.Cotton@whmo.mil) for the pre-screening package.



**A U.S. Marine Corps VH-3D Sea King helicopter, assigned to HMX-1, arrives at Berry Field Air National Guard Base, Tenn. Also shown is a CH-46 Sea Knight helicopter, center. (Photo by Air Force Master Sgt. Julius Shook)**

“Being able to walk down the street or make a phone call and get an appointment that day is extremely beneficial,” Kaminski said. “With the way our schedules work here it’s beneficial when you don’t have to make an appointment through Tricare or go over to the clinic. You can just walk down the street and say, ‘hey doc, I got this going on,’ and get it taken care of.”

Going through any type of medical treatment can be arduous, but the pilot’s became easier because of the support and availability of the squadron’s medical team.

“These guys were tremendously helpful to me throughout the entire process, aside from how this place operates,” Kaminski said. “When I had a problem or ran out of medicine and had trouble getting

a refill, they’d take care of it for me in a heartbeat. It was great having someone you could call on the phone and get something like that taken care of. These guys were great in helping me out.”

Aside from keeping Marines healthy and performing their variety of medical duties, the team is also blazing trails in squadron history.

“My primary job is acting as medical personnel,” said Hospital Corpsman Lance Lopez. “I take care of the Marines that fly and make sure everything is good to go. But I’m also trying to become a crew chief with HMX-1. If I do become one, I’ll be the first Navy crew chief in squadron history.”

Lopez balances his duties as a corpsman while also studying and learning how to be a crew chief.

“If the mission allows, I come down and work with the aircrew every Tuesday, Lopez said. “Then if there are opportunities for me to fly, I try to. I also go TAD once every two months, where I work with the aircrew for about a week and try to get a lot of things accomplished.”

The benefits of having Lopez become a crew chief means that the helicopter he serves will have someone with the same knowledge of a corpsman in case those types of skills are needed at a time when a medical professional is not immediately available.

“I always bring my medical bag when I’m working with aircrew because you never know what going to happen,” Lopez said.

Whether it’s performing routine medical care, diagnosing life-threatening illnesses or becoming multi-faceted service members, the Sailors of the HMX-1 medical department continue to make the helicopter rotors turn by keeping their Marines fit to fly. +

**The medical component to HMX-1, which stands for Marine Corps Helicopter Squadron One, is made up of Sailors who fill the roles of flight surgeon, aerospace physiologist, clinical psychologist, independent duty corpsman, aerospace medicine technicians, Fleet Marine Force corpsmen and aerospace physiologist technician. (Photo by Marine Corps Cpl. Daniel Wetzel, Defense Media Activity)**

# WILDERNESS RACE

Photos by Mass Communication Specialist 1st Class Anastasia Puscian | Naval Medical Center San Diego Public Affairs



Naval Medical Center San Diego Emergency Department (ED) staff use a stretcher to evacuate a simulated injured patient down a muddy trail during the ED wilderness medicine race held at the San Onofre State Park. More than 20 doctors, nurses and hospital corpsmen competed in the first wilderness medicine race to familiarize staff with care of patients in wilderness environments and build department camaraderie.



Naval Medical Center San Diego Emergency Department (ED) staff evaluate a simulated drowning victim during the ED wilderness medicine race held at the San Onofre State Park. Teams made up of three to four personnel were given GPS points to eight medical scenarios where they worked together to complete before moving on.



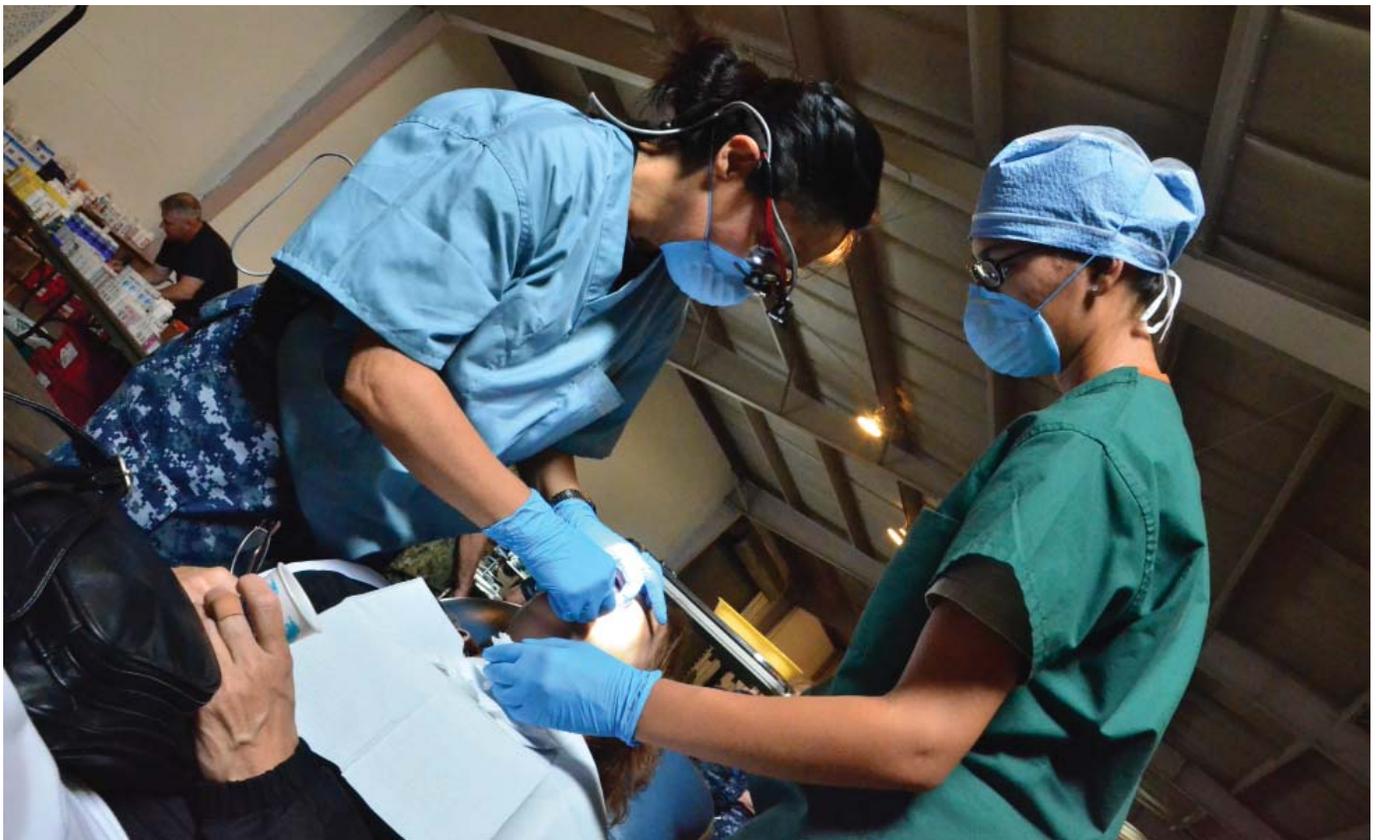
Naval Medical Center San Diego Emergency Department (ED) Resident Lt. Cmdr. (Dr.) Elliot Ross briefs staff before the start of ED's first wilderness medicine race held at San Onofre State Park.



A Naval Medical Center San Diego Emergency Department (ED) staff member reads medical questions to gain extra points for her team during ED's wilderness medicine race held at the San Onofre State Park.

# ALABAMA CARE 2012

From Navy Medicine Support Command Public Affairs



Service members perform dental work on a patient, May 4, during Alabama Care 2012. The event is Navy Medicine's largest community outreach effort in the Southeast as part of an Innovative Readiness Training joint mission designed to provide assistance to underserved communities as well as prepare service members for potential deployments. (Photos by Mass Communications Specialist 1st Class Bruce Cummins)

**N**early 80 enlisted and commissioned U.S. Navy medical professionals are participating in one of Navy Medicine's largest community outreach efforts in the Southeast as part of an Innovative Readiness Training (IRT) mission designed to provide assistance to under-served communities.

Alabama Care 2012, scheduled to continue through May 10, is part of the Department of

Defense (DoD)-supported IRT effort, an initiative designed to improve military readiness while simultaneously providing quality services to communities throughout America.

The project is a multiservice mission comprised of active duty, Reserve, and National Guard members from Navy, Army and Air Force components.

Service members worked together to set up field-operated medical facilities in the three medically



**Navy Hospital Corpsman 1st Class Jennifer Mantanona from Navy Operational Support Command Las Vegas, prepares to perform dental x-rays on a patient, May 4, during Alabama Care 2012 in Demopolis, Ala. Mantanona is participating in one of Navy Medicine's largest community outreach efforts in the Southeast as part of an Innovative Readiness Training joint mission designed to provide assistance to underserved communities as well as prepare service members for potential deployments.**

underserved and economically-depressed communities of Selma, Demopolis and Hayneville. Although the primary focus of military medical professionals participating in the exercise is to conduct deployment and readiness training, U.S. Armed Forces participants provided free medical, dental, pharmaceutical and ophthalmology services to the community, something Navy Medicine Support Command (NMSC) Reserve Component member and Alabama Care 2012 Navy Component Team Lead Cmdr. Patricia McCafferty said represents the fabric of what military medical professionals do around the world.

"Our Navy medical professionals are eager to provide the best care possible," she said. "We are also providing education through handouts, videos and posters. Each of the three sites has coordinated with local medical doctors, dentists and pharmacies, which allows the patient to continue to receive care once we depart."

The tri-service medical personnel are providing multiple services that include nursing evaluations,

cholesterol screening, blood glucose monitoring and Hemoglobin A1C testing. Dental services include assessments, extractions, fillings and cleanings. Eye exams and spectacle manufacturing are offered, and a pharmacy is dispensing prescriptions once the patient has been seen and assessed by the medical team.

Alabama Care 2012 marks the first time some of the deploying Reservists are exposed to working with other military services, an effort she said will prove invaluable in the future for everyone involved.

"Flexibility and adaptability are key working in a joint environment," McCafferty said. "We have become a seamless group and have established friendships that will last a lifetime."

NMSC and its Reserve component are part of the Navy Medicine team, a global health care network of 63,000 Navy medical personnel around the world who provide high-quality health care to more than 1 million eligible beneficiaries. Navy Medicine personnel deploy with Sailors and Marines worldwide, providing critical mission support aboard ship, in the air, under the sea and on the battlefield. +

# THE COMBAT TRAUMA CARE SYSTEM



**NATO Role 3 Multinational Medical Unit in Kandahar, Afghanistan, trauma team members transfer a casualty to an emergency room bed.**  
*(Photos by Hospital Corpsman 2nd Class Kyle Murphy)*

By Navy Capt. Zsolt T. Stockinger | Naval Medical Center Portsmouth

**T**he NATO Role III Multinational Medical Unit in Kandahar, Afghanistan, perhaps better known as the “Combat Hospital” from the Canadian television series, has come a long way since it was first set up almost a decade ago. It has transitioned from a tent structure that would be familiar to many who have deployed to Role/Echelon II facilities, to a modern, rocket-proof, brick-and-mortar structure that, on the inside, calls to mind a typical hospital.

Only it's not. Despite the change of venue, the primary mission remains the same: “Combat Hospital,”

the evaluation and treatment of combat casualties. Soldiers, Marines, Airmen, Sailors, and of course the Afghan National Security Forces and civilians. Plus the melting pot that is NATO and the coalition: Albanian, Australian, British, Bulgarian, Canadian, Dutch, French, Romanian, to name just a few.

Trauma care in the era of the Global War on Terror has been trumpeted as an unprecedented success, and rightly so, with the lowest fatality and highest survival rates in history. While much of this can be attributed to improved troop protection, with Mine-Resistant Ambush-Protected vehicles and body armour, the medical advances have also been critical to this success.

First, the system of medical care has evolved. During

the 19th century, the wounded often became the dead through days of lying in the battlefield due to no organized system to treat the aftermath of warfare. In fact, Jean Henri Dunant's abhorrence of what he saw after the battle of Solferino in 1863, where 38,000 casualties lay dead and dying in the field, prompted him to found the International Committee of the Red Cross, for which he received the first Nobel Peace Prize in 1901. During the First World War, casualty evacuation took 18 to 24 hours; by the Second, it was six to 12 hours; by Vietnam, with the advent of the helicopter, over 90 percent of casualties were in surgery within four hours. Today, casevac from point of injury can at times be measured in minutes, and the location of forward surgical facilities is in part determined by the time required to evacuate the injured from the area of conflict.

Capabilities have been pushed further forward. While highly mobile, minimally equipped, quick to set up and tear down surgical teams still exist and deploy today, modern operating rooms also exist in theatre. CT scanners are no longer a novelty, and MRI was just recently introduced. Angiography, both diagnostic and interventional for angioembolisation of bleeding inaccessible to surgery, has been pushed forward to both Kandahar and Bagram. Blood transfusion capabilities have been expanded and refined, and full component therapy is now widely available, with apheresis platelets being drawn and used in theatre; in the past the only options were packed red blood cells and fresh whole blood.

Concepts have been refined. The "ABC" approach in the field is now "CAB," as we have recognized that haemorrhage remains the number one killer in the battlefield and tourniquets have become universal. The Joint Theatre Trauma System has developed 37 separate Clinical Practice Guidelines, the majority of which are evidence-based from actual combat trauma data, to standardize and improve management of casualties. Massive transfusion protocols have been defined, redefined, and refined, to best resuscitate critically injured and exsanguinated patients, again based on military data (the civilian definition of "massive transfusion" is ten units of red blood cells in 24 hours; a military casualty can receive this much in 24 minutes). Damage control concepts have evolved and we no longer attempt to fix

every injury at one sitting, but perform multiple, staged operations as the patient will tolerate them.

But none of this says anything about the people, and the people providing the care remain the bottom line. In some ways, things have hardly changed at all; I often tell people that Hawkeye Pierce from "MASH" could have walked into my operating room in Iraq or Afghanistan and felt right at home, as "meatball surgery" remains just that. The medical personnel, from the corpsman or medic in the field, to the rehab facility stateside, remain dedicated to preserving life and limb. But how we use them is now a little different.

In the typical civilian emergency department (which is rarely a Level I trauma centre), the typical trauma patient (who rarely has multiple blunt and penetrating injuries from an explosive event) is evaluated and treated by a single emergency physician. This physician will examine the patient; establish the airway; place central venous access if necessary; and perform other procedures as needed. He or she will be assisted by a nurse or two, perhaps a technician or two. When significant injuries are found (often after imaging by CT scan), the appropriate consultant will be called — trauma surgery, orthopaedic surgery, neurosurgery — and, after the delay required for that specialist to come to the hospital, re-examine the patient, review the images, and then call in the anaesthesiologist and operating room crew, the patient goes to surgery.

In Afghanistan, the patient would be dead by now. Even the most skilled and experienced single physician, regardless of specialty, cannot perform more than one task at a time, and an exsanguinated double- or triple-amputee can't wait that long. Time is not money, it is blood.

This is why teamwork and having personnel immediately available is critical to the survival of the patient. At a forward surgical unit (Role/Echelon II), there are too few personnel to work shifts, so everyone will live near the medical facility. At the more robust Role/Echelon III, such as Kandahar, the staffing can follow the model of a CONUS Level 1 trauma centre, where anaesthesia and surgery are in house 24-hours a day and immediately available.

But is that enough? Remember, combat casualties are different patients. Yes, they are generally much

**DAMAGE CONTROL CONCEPTS HAVE EVOLVED AND WE NO LONGER ATTEMPT TO FIX EVERY INJURY AT ONE SITTING, BUT PERFORM MULTIPLE, STAGED OPERATIONS AS THE PATIENT WILL TOLERATE THEM.**



**Three surgeons at the NATO Role 3 Multinational Medical Unit in Kandahar, Afghanistan, operate simultaneously on a trauma patient — something routine in war but highly unusual in the civilian world.**

younger and healthier, which may be the only reason why they survive with such devastating injuries to even reach surgical care. But they are multiple-injured, and despite the application of tourniquets on their mangled or missing extremities, may already have exsanguinated. Help being “immediately available” won’t cut it.

Years of experience has demonstrated that reports from the field may not be reliable — despite the best intentions, a young corpsman’s evaluation of a casualty

in poor conditions, possibly under fire, may not be accurate or even thorough; or the casualty can deteriorate in flight. The approach taken by our staff at the NATO Role III Multinational Medical Unit in Kandahar, Afghanistan, was to front load the medical personnel. Whenever an “alpha” or “urgent surgical” patient was known to be inbound, the trauma bay would fill. In addition to the normal trauma team complement of five (emergency physician, two nurses, two corpsmen),

# THIS IS WHY TEAMWORK AND HAVING PERSONNEL IMMEDIATELY AVAILABLE IS CRITICAL TO THE SURVIVAL OF THE PATIENT.

other personnel would arrive: duty (in-house) trauma surgeon and anaesthesiologist; operating room shift charge nurse; radiology technician. If the patient arrived and did not seem critical, the core trauma team would go to work, with the duty trauma surgeon observing or assisting in the examination. As the surgeons provided overall continuity of care throughout the NATO Role III admission, it just makes sense and expedites matters to examine the patient together. The other personnel could be dismissed if not needed.

If the patient was unstable, as the emergency room physician performed the physical examination and evaluation, the additional personnel would step in to perform intubation, central venous access, tourniquet placement, or whatever else was needed. The rationale being that a physician cannot examine a patient and perform a procedure simultaneously, and that the trauma team leader needs to maintain situational awareness of the entire patient, which he could not do if performing a procedure.

This model is not unique to Kandahar; for example, the United Kingdom Role III Hospital at Camp Bastion has been doing this for years. At first, some people had a little heartburn with this, because “it’s not like we do it back home,” but the patients aren’t like those back home either — Class IV haemorrhagic shock barely raises an eyebrow here.

If the patient was known to be unstable or critical prior to arrival (for example, the all-too-frequent report of “CPR in progress”), then the system would kick into high gear, with all personnel prepositioned and equipment at the ready. Anaesthesiologist at the head of the bed to intubate. Duty surgeon at the patient’s right shoulder to place subclavian central venous access (leaving the neck free for simultaneous intubation, and the left chest available for resuscitative thoracotomy, and following the rule that abdominal or pelvic injuries, the most likely with IEDs, do not get femoral IV access due to risk of pre-existing injury). An additional nurse at the head of the bed to prime and run the rapid blood transfuser. Operating room tech nearby the left shoulder, ready to open the thoracotomy set if needed and hand instruments. Often, orthopaedic surgery standing by to replace field tourniquets with pneumatic ones. Operating room nurse already back in the room prepositioning abdominal, thoracic, and vascular instrument sets. Duty

radiologist standing by ready to perform ultrasound. And the trauma team leader ready to assess and examine the patient and “Captain the ship,” with input and collaboration from his surgical colleagues.

If the patient arrived as advertised, many things would occur simultaneously, often with minimal direction as each team member already knew what to do. If the patient arrived in stable condition, the excess personnel would rapidly melt away, and the core trauma team would manage the patient.

Does this system work? I would have to answer with a resounding “Yes!” During the six months from mid-August 2011 to mid-February 2012, not a single coalition forces casualty that arrived with any vital signs at the NATO Role III died there. And two who arrived dead, both double amputees in asystole, were successfully resuscitated and remain alive today. It may be coincidence, but it’s hard to argue with, and it does credit to the American, Canadian, Dutch, Belgian, Australian and Danish medical personnel who accomplished it.

A young Soldier arrives receiving CPR, both legs blown off above the knees by an IED. He was injured perhaps a half hour ago, and was alive but barely conscious when the helicopter arrived. Duration of CPR is unclear. He is pale, pulseless and apneic, and has clearly “bled out” despite the two well-placed tourniquets on each thigh; by civilian standards, he is “dead on arrival.” Within eight minutes, he has been intubated and is on a ventilator; had two upper extremity IVs and a right subclavian vein cordis catheter placed; undergone resuscitative thoracotomy with aortic cross-clamping and manual cardiac massage for several minutes; had pneumatic tourniquets placed on both thighs; had a full physical examination, chest and pelvis x-rays; and received eight units of packed red blood cells, four units of fresh frozen plasma, cryoprecipitate, and apheresis platelets. Most importantly, he is now alive, with a pulse and blood pressure, and is heading to the operating room for the first of three “damage control” operations and 409 units of blood products over the next 36 hours. Yes, 409. He remains alive today.

An observer unfamiliar with either trauma or our trauma system remarked, “That was chaos. Things did not go in sequence, and nobody was in charge.” My response was, “Then you don’t understand what you are looking at. You call it ‘chaos.’ I call it ‘teamwork.’”+

# NAVY MEDICINE SETT

Story and photo by Janet Tela | U.S. Navy Bureau of Medicine and Surgery Public Affairs

**A**fter 170 years on the Hilltop in Foggy Bottom, the U.S. Navy Bureau of Medicine and Surgery (BUMED) officially said goodbye to the neighborhood in Northwest Washington, D.C. and completed the realignment to the Defense Health Headquarters (DHHQ) in suburban Falls Church, Va., June 5, 2012.

The move, which was directed by the 2005 Base Realignment and Closure (BRAC) Commission, co-locates BUMED in a complex with the Army and Air Force Surgeons General staffs as well as TRICARE Management Activity (TMA) and the Office of the Assistant Secretary of Defense for Health Affairs.

“The intent for this move was to improve coordination and collaboration among the three services and TMA” said Dr. Steve Tela, director of Base Realignment and Closure, U.S. Navy Bureau of Medicine and Surgery.

More than 3,000 military members, civilians and contractors from three facilities across the five organizations were relocated in the move, which culminates more than seven years of planning, hearings, legal proceedings and panels, as well as the cooperation and patience of hundreds of BUMED employees.

In May of 2005, the fifth round of BRAC discussions began and that following summer an independent BRAC commission chose to add a recommendation that would

co-locate the service with the Surgeons General and TMA at one site.

This is the first time that all U.S. (DoD) military medical health care operations have come together on a single campus to continue the mission of excellence in health care systems for military personnel and their families, according to Tela.

In September 2005 after an extensive review process that included months of public hearings, expert testimony, and intensive impact studies, a series of recommendations were produced and sent to the White House in a report. The next month, former President George W. Bush approved the report, Congress voted it to be a law, and the DHHQ was planned to be created. The next step in the process was choosing a location.

In March 2008, a search began for government-leased office space to house the DHHQ. GSA assembled a technical review board that assessed three proposals to house the BRAC action and made the lease award to GBA Associates for the property in July 2010. Proposals had to meet minimum square footage requirements, parking requirements, the new DoD construction standards for Anti-Terrorism Force Protection,

proximity to mass transit rail stations, and other criteria. GSA decided to lease and retro-fit an existing facility at 7700 Arlington Blvd., Falls Church, Va.

In July 2010, the construction of the new facility began. By April 2012 it was ready for TMA to be the first organization to move in. Days after TMA completed their move Air Force began to transition to the new facility, followed by Navy and Army.

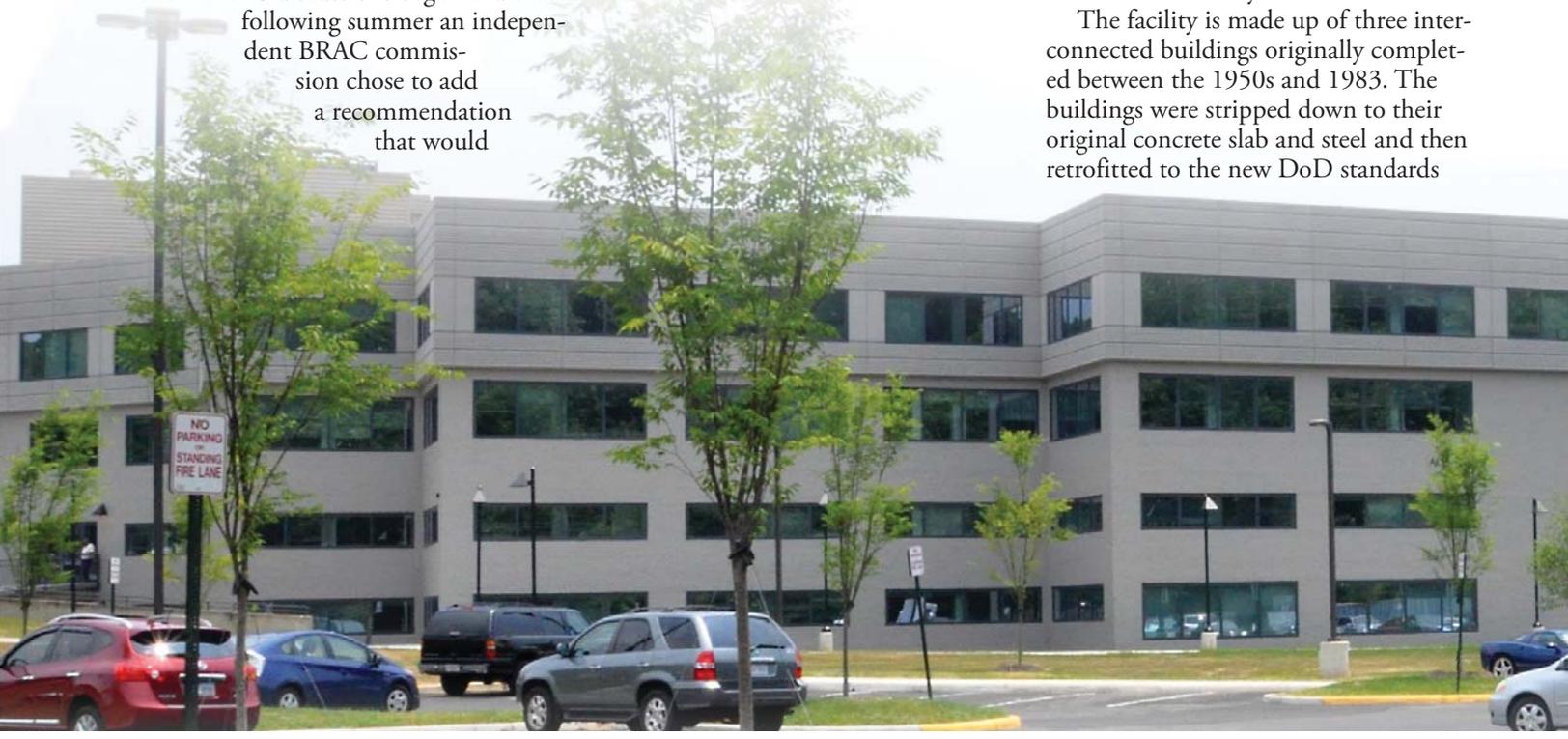
Relocating is never without its challenges. BUMED’s move was delayed due to the building not being ready for nearly a year.

“Getting everyone ready and excited for the move then having to tell them the move was delayed was difficult,” said Weinstein. “Employees went back to their normal routines, then had to get everyone ready all over again when it actually was time to start moving.”

In order to keep anxiety levels down, BUMED leadership held frequent town hall meetings for employees and also developed an informational news letter.

“People worried about adjusting to the new location and what their office would look like, who they would be with, and when things would go back to normal,” said Weinstein. “But we continued to keep employees informed. People are now adjusting and settling in and not anxious anymore.”

The facility is made up of three interconnected buildings originally completed between the 1950s and 1983. The buildings were stripped down to their original concrete slab and steel and then retrofitted to the new DoD standards



# TLES INTO NEW HOME

along with modern, energy-efficient components.

Some of the feature highlights of the new facility include fluorescent light installations and natural light for workers to have a more productive and efficient workspace along with new furnishings, and sound deadening carpeting and walls. The new facility is one of the few buildings in Fairfax County to meet the Leadership in Energy and Environmental Design certification (LEED SILVER). The building also meets many environmental considerations such as windows and openings for natural light, trees left around the land surrounding the facility, and reduced parking to encourage carpool and vanpool use.

“We are now located in a newer facility than we were before. Although the site does not have the same historical significance as the Hilltop in Foggy Bottom, many of the staff would say it is a nicer area, cube, or office than they had before,” said Capt. Michele Weinstein, Assistant Chief of Staff, U.S. Navy Bureau of Medicine and Surgery. “Everyone has a space to call their own, where at old BUMED, we took old rooms to configure them into offices.”

The DHHQ web site lists features including a 1,300 square ft. modern style foyer and entrance welcoming guests and employees, a conference center that seats up to 300 people for large meetings and ceremonies that can also be subdivided into smaller rooms to meet many events and requirements. To promote health and readiness there is a 10,300 sq. ft. fitness center open to all staff with state of the art machines

along with cardiovascular and strength training equipment. Features also include an Armed Forces Medical Library, and several food service options at the DHHQ cafeteria that serves as a common space for both dining and casual meetings called the Pavilion which will open after Labor Day.

“The staff are adjusting to the new work environment and the Headquarters business of Navy Medicine goes on as we expected” said Tela.

The new, much larger work space concerned a few employees in terms of getting lost and losing touch with fellow staff members but, much to their surprise, the BUMED staff appears to see more people throughout the work day. They also are able to come together and work as one unit more than before.

“I think people are starting to meet people that they have never met for years from their old workspaces,” said Weinstein. “Now we are colocated on two floors, so it is very easy to walk two floors to see everyone. It’s amazing to see people chatting at work who have never seen each other before, bizarre in some ways, but amazing,” Weinstein said.

Although BRAC required by law a change of homeport for BUMED away from Foggy Bottom to the new facility in suburban Virginia, the mission for Navy Medicine’s headquarters remains ever constant.

“We are still Navy Medicine, still BUMED,” said Weinstein. “BUMED has not decommissioned or gone away, we are still the headquarters and I think some things will be enhanced by our move.”

While any organization has its challenges when making a move

of this type, BUMED’s employees have continued to accomplish their mission.

“The employees have been very cooperative and supportive,” said Weinstein. “Our team has done a good job settling in; the majority of people were back to work and on track immediately.”

Weinstein believes that this move gave BUMED a “fresh start” and how this is an opportunity to start new ways of thinking.

“It’s amazing how a clean office can help generate some new ideas,” Weinstein said.

Tela’s duties at BUMED, along with the majority of its staff, involve considerable interaction with colleagues at TMA, the Air Force and Army Surgeons Generals staff.

“Being able to walk over to their office or meet while at the same location is much preferred to telephone or e-mail as we had to before we moved,” said Tela.

Weinstein is very optimistic about the future outlook for BUMED and for the service that DHHQ will provide for its active duty, retired, and military families through each service.

“I think in a couple years this place will look very different in terms of who sits where,” said Weinstein. “I think as people start to work together across the services, will we see different services sitting together in spaces. I think it will constantly evolve as we get better at what we do, which would benefit everyone.”

BUMED’s former home also known as the Potomac Annex, located at 2300 E Street, will be transferred to the Department of State later this summer as well as some of the property to the U.S. Institute of Peace. +





National Intrepid Center of Excellence leadership and dignitaries break ground on the NICoE Satellite Center at Fort Belvoir in Springfield, Va. June 13. (Photo by Joshua Stueve, NICoE Public Affairs)

Ground was broken on the new National Intrepid Center of Excellence Satellite Center at Fort Belvoir in Springfield, Va. June 13.

Army Col. Susan Annicelli, commander of the Fort Belvoir Community Hospital, welcomed the crowd.

“We are so humbled and grateful [for] this gift that the Intrepid Fallen Heroes Fund has given to Fort Belvoir,” Annicelli said.

Both the design and mission of this Satellite Center—and another to be built at Camp Lejeune, N.C.—are mir-

rored after the original NICoE, which is located at the Walter Reed National Military Medical Center in Bethesda, Md.

The goal of these individual centers is to bring the successful NICoE clinical program to installations throughout the country, increasing the overall number of service members with comorbid mild traumatic brain injuries and psychological health conditions who can be seen and treated at a NICoE facility. Placing these essential treatment and care facilities right in the Soldiers’ communities

is will create more immediate access for thousands of service members throughout the military.

“The NICoE’s charge is to make visible what is invisible,” said Dr. James Kelly, director of the original NICoE. He also emphasized the importance of collaborating with these new Satellite Centers to create a network of treatment, research and education centered on mTBI and PTSD.

“Recovery from brain injury varies by individual degree of damage,” Kelly said. “Although little can be done to reverse the initial damage, immediate medical treatment is essential for stabilizing, preventing further damage and beginning physical and mental rehabilitation. For many TBI sufferers, there is medication and alternative medicines which can mitigate symptoms such as headaches, chronic pain, behavioral problems, depression and seizures, once the extent of the injuries are diagnosed.”

The NICoE in Bethesda, Md., works to explore and research these different treatment options to see which are most effective. All of these practices will be shared with the NICoE Satellite Centers to expand this continuum of care.

**“It is our duty as Americans to care for our military men and women who have worn the cloth of our nation in battle, and sacrificed a piece of themselves for our freedom.”**

- Mr. Arnold Fisher, honorary chairman of the Intrepid Fallen Heroes Fund



**A rendering shows what the National Intrepid Center of Excellence Satellite Center at Fort Belvoir will look like upon completion.**  
*(Photo courtesy of SmithGroupJJR)*

Army Staff Sgt. Spencer Milo and Air Force Master Sgt. Earl Covell, both former patients at the NICoE, attended the ceremony as honored guests. Before the ceremony, Milo told reporters that the “NICoE gave me the tools I needed to be a better husband, father and Soldier. Their staff was able to understand that not all of my wounds were visible.”

Both Milo and Covell credit their success today to the men and women who worked with them at the NICoE, and are excited to help promote the expansion of the NICoE program.

“The staff at the NICoE led me back from a very dark place. Now I can see the light at the end of the tunnel and I’m looking to the future for the first time in a long while,” Covell said.

Both the Fort Belvoir NICoE Satellite Center and the Camp Lejeune location broke ground on Wednesday. During the ceremony, Mr. Richard Santulli, chairman of the Intrepid Fallen Heroes Fund, said that the IFHF hopes to fund more than seven centers located at military bases across the country. The IFHF relies on the donations of private



**The NICoE Director Dr. James Kelly speaks about the work taking place at the NICoE and how these Satellite Centers will make a huge difference for our service members.**  
*(Photo by Joshua Stueve, NICoE Public Affairs)*

citizens to meet this goal. To donate to the IFHF, please go to: <http://www.fallenheroesfund.org/>

Mr. Arnold Fisher, honorary chairman of the Intrepid Fallen Heroes Fund, encouraged the crowd to begin this important work.

“It is our duty as Americans to care for our military men and women who have worn the cloth of our nation in battle, and sacrificed a piece of themselves for our freedom,” said Fisher. “We owe it to these service members and I’m ready to get started now.”+

# Naval Medical Center San Diego Opens New BIOSKILLS TRAINING CENTER

By Mass Communication Specialist 3rd Class Jessica Tounzen | Naval Medical Center San Diego Public Affairs



Chief Quartermaster Jack Wymer drills a hole in a synthetic bone used for training in Naval Medical Center San Diego's new Bioskills Training Center. Boasting 2,100 square feet of useable training space, the BTC can accommodate up to 40 medical personnel and 10-12 supplementary personnel at eight full cadaver stations or 16 partial specimen stations to teach advanced surgical skills, enhance and hone existing skills, provide opportunities for patient-specific procedure development, and provide a venue for introduction of new technology, new procedures, and innovative development by Navy researchers. (Photos by Mass Communication Specialist 1st Class Anastasia Puscian)

**N**aval Medical Center San Diego unveiled a major upgrade to one of its training facilities during a grand opening ceremony April 23.

The hospital's 450-square-foot Surgical Training Lab had been in use since 1998. Over the years, the space became inadequate due to increased use by the hospital's residency programs, staff and pre-deployment training programs, and

it was determined that more room was needed.

Now boasting 2,100 square feet of useable space, the Surgical Training Lab is now the new Bioskills Training Center. The \$5 million facility can accommodate up to 40 medical personnel and 10-12 supplementary personnel at eight full cadaver stations or 16 partial specimen stations.

The mission of the training center is to support the medical center's mission

of operational readiness, patient care, and staff and resident medical education. The Bioskills Training Center provides courses to teach advanced surgical skills, enhance and hone existing skills, provide opportunities for patient-specific procedure development, and provides a venue for introduction of new technology, new procedures, and innovative development by Navy researchers.

In 2007, Rebecca Eveland, head, surgical training laboratories and the



**Commander, Naval Medical Center San Diego, Rear Adm. C. Forrest Faison III performs a nylon suture at one of the microscope stations in NMCS D's new Bioskills Training Center. The mission of the BTC is to support NMCS D's mission of operational readiness, patient care, and staff and resident medical education.**

new facility, along with her medical center colleagues began brainstorming ideas for a new training space. A grant was received and serious planning efforts commenced in 2009.

"That was when we requisitioned several spaces adjacent to the Surgical Training Lab: a storeroom, a room with two freezers, Pathology's HIV lab, and a small NCIS office. It's an expansion and complete renovation of the original Surgical Training Lab," said Eveland.

Setting the training center apart from other facilities is the fact that it is qualified as both 'macro' and 'micro'— meaning it can accommodate both larger and smaller specimens and is well-suited for nearly any type of surgical training—

the only such training facility of its kind throughout the Department of Defense.

Within the Bioskills Training Center are 12 large flat-screen televisions as well as five cameras, four wall-mounted and one housed in the surgical lamp above the instructor's table. The facility's previously cramped 450-square-foot space meant residents had to crowd around one table to view a procedure. Now, participants are able to simply glance up at a monitor to observe.

The center's two civilian staff members along with NMCS D Simulation Center staff will offer training courses such as advanced anatomy and dissection, individual study and practice, deployment preparation, surgical skills en-

hancement, and research. The training center not only accommodates medical center staff but also medical personnel from throughout the Department of the Navy.

In fiscal year 2011, the Surgical Training Lab educated 2,197 physicians during 279 events, totaling 7,510 man-hours of training. The new Bioskills Training Center will greatly increase the amount, and quality, of training, research, and support to Navy Medicine.

The training center is located in Building 1 at NMCS D, in the Clinical Investigation Department, and is open weekdays from 6:30 a.m. to 4 p.m. (6 p.m. for staff and resident surgeons), and on weekends by arrangement only.+

## NSMRL, Duke ID Multi-gene Signature of Decompression Stress

From Naval Submarine Medical Research Laboratory Public Affairs

Physiologists from the Naval Submarine Medical Research Laboratory (NSMRL) in Groton, Conn. and Duke University Medical Center have teamed up to identify a multi-gene signature of decompression stress.

In the past, Genome-wide Expression Profiling (GWEP) has been used for identification and validation of gene expression patterns associated with cardiovascular disease processes.

“Our hypothesis is that comparing gene expression before and after human decompression exposures by GWEP will provide insight into biological pathways and potential molecular markers associated with decompression stress,” said Dawn Kernagis, the project’s lead investigator at Duke University.

The study involved analyzing the genomic changes from 93 hyperoxic, mixed-gas experimental dives conducted at the Navy Experimental Diving Unit and 27 normoxic experimental decompression exposures conducted at NSMRL. In addition, separate control experiments were conducted at NSMRL to determine the genomic changes resulting from hyperbaric oxygen exposures and mild exercise conducted at surface pressure as well as the differences occurring in the gene signature between morning (7 a.m.) and afternoon (5 p.m.) without any intervening diving exposures.



The Naval Submarine Medical Research Laboratory genesis hyperbaric chamber where some of the experimental decompression dives were conducted. (Photo courtesy of NSMRL Public Affairs)

“The control experiments were conducted to rule out changes in the genomic signature that were due to hyperoxia (oxygen stress), exercise and circadian rhythms,” said Dr. David Fothergill, the lead investigator at NSMRL.

The study found that GWEP of peripheral blood following decompression exposures identifies a reproducible multi-gene signature of differentially expressed genes, primarily comprising genes associated with the immune response that was independent of the level of decompression stress.

These findings provide a glimpse

into the physiological systems affected by decompression stress and offer an avenue for further focused research that could aid in finding adjunctive or non-recompression therapies to mitigate the potential harmful effects of high levels of decompression stress that can lead to decompression sickness.

Such research would have direct relevance to the fleet and combat divers who are exposed to decompression stress during diving operations as well as in the management and treatment of disabled submarine survivors, said Fothergill. +

## BDRD Promotes Science, Technology, Engineering and Math

From Naval Medical Research Center Public Affairs

Lt. Mario Guerrero, a biochemist, and Hospital Corpsman 1st Class Judith Gigremosa, an advanced laboratory technician, represented the Naval Medical Research Center (NMRC) Biological Defense Research Directorate (BDRD) at Walkersville Middle School in Walkersville, Md., May 11. Guerrero and Gigremosa participated in the school’s second annual Science, Technology, Engineering, and Mathematics (STEM) event. The event attracted representatives of local government and private industry within Maryland interested in sharing their careers with community youth. Careers explored at this event ranged from microbiology to astronomy.

Guerrero and Gigremosa showcased BDRD’s tools of the trade for students interested in science and technolo-

gy. Their focus was on the detection of biological markers, which generated a highly interactive discussion with the students about diseases in the environment.

Students were able to view live rabbit cells in a microscope and a single colony of bacteria on a Petri dish. They also received a hand-held kit to perform their own at-home experiment. Students examined a field polymerase chain reaction instrument as an example of engineering strides taken to ruggedize and downsize state-of-the-art technology used for science.

“NMRC STEM outreach to local schools is greater than it’s ever been before with regular engagements occurring at Maryland schools such as Rolling Terrace Elementary, New Midway Elementary and Walkersville Middle School,” said Guerrero. +

# NAMRU-3 Assists in Expanding Egyptian Public Health Capacity

By Susan Woodfin | NAMRU-3 Public Affairs

U.S. Naval Medical Research Unit No. 3 (NAMRU-3) staff members participated in the April 30 ribbon cutting ceremony for two upgraded laboratories at the Damanhour Center of Excellence, a collaborative project between the Egyptian Ministry of Health and Population (MOHP), NAMRU-3, and the U.S. Centers for Disease Control and Prevention (CDC). The Molecular Diagnostics Laboratory, completed June 2011, and the Tuberculosis (TB) Diagnostics Laboratory, completed March 2012, complement the existing CDC International Emerging Infections Program (IEIP) Egypt bacteriology and serology laboratories and will facilitate a wider range of diagnostic tests for infectious diseases of public health importance. Damanhour is the first of three centers of excellence envisioned by the MOHP in collaboration with NAMRU-3 and the IEIP. The city of Damanhour is in Beheira Governorate, which is located in the delta of Egypt about midway between Cairo and Alexandria. The Center of Excellence is located in MOHP facilities there.

Lt. Cmdr. Brent House of the NAMRU-3 Global Disease Detection and Response Program (GDDRP) was responsible for supervising the design of the TB Diagnostics Laboratory spaces and the acquisition of appropriate equipment and supplies.

“Both laboratories were specifically renovated to utilize locally available equipment and supplies, creating a sustainable diagnostic laboratory model for all of Egypt,” said House. “The TB Laboratory, in particular, will include WHO [World Health Organization] endorsed diagnostic assays that are both quick and affordable.”

The ceremony was attended by 55 representatives from Egypt’s central level Ministry of Health and Population, the General Office for Veterinary Services, NAMRU-3, CDC, and directors and



**Global Disease Detection and Response Program’s Dr. Hoda Mansour speaks with laboratory technicians in the TB lab at the Damanhour Center of Excellence.** (Photo courtesy of NAMRU-3 Public Affairs)

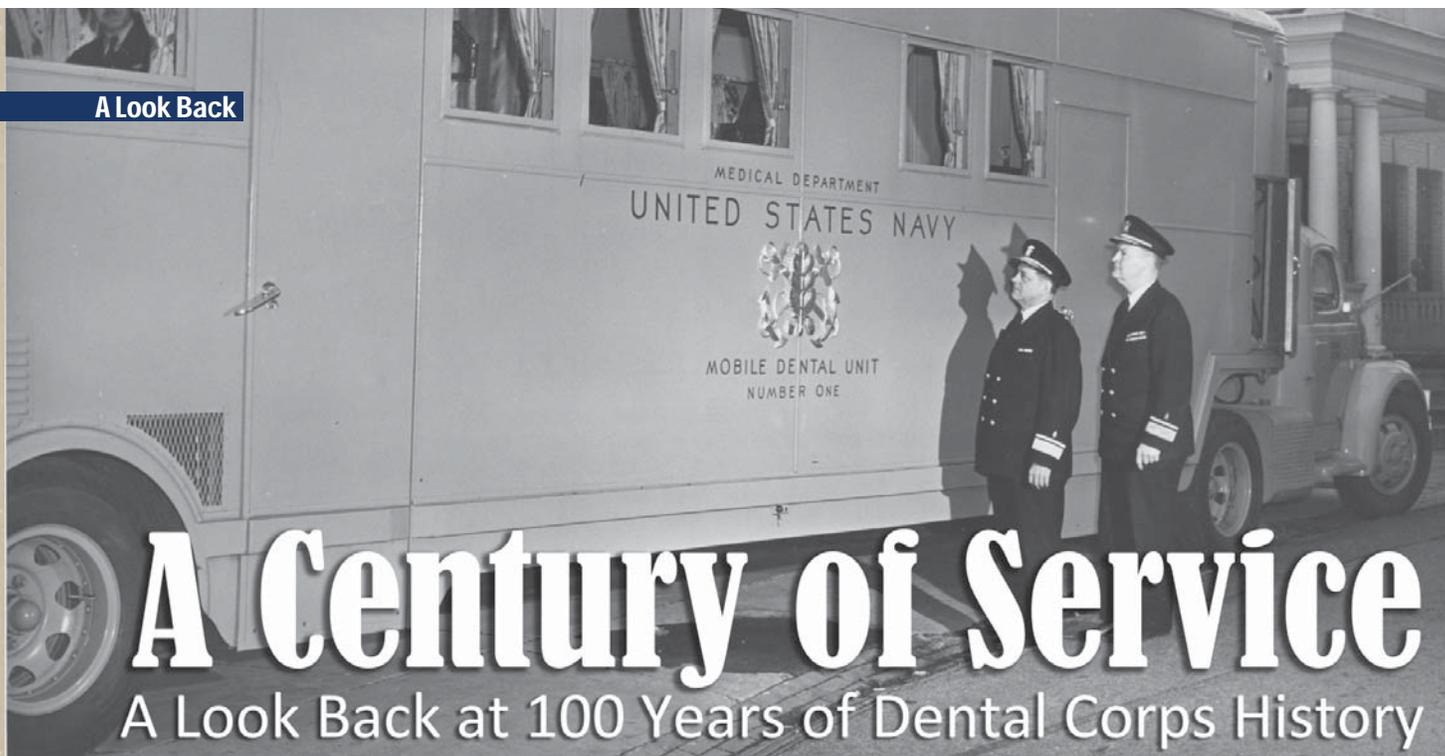
staff from the various hospital facilities participating in the population-based surveillance activities in Damanhour. Dr. Mohamed Geneidy, General Director of the Communicable Disease Department of the MOHP, attended. Dr. Nasr El Sayed, Assistant Minister of Health and Population, Preventive Sector, had visited the laboratories April 29 and expressed interest in utilizing the laboratory facilities for local outbreak investigations and surveillance for diseases of local and regional public health interest to build on the ongoing surveillance platform.

“These modern and sustainable laboratories, built as a cooperative effort between Egyptian and U.S. partners, will not only serve the people of Damanhour and Beheira Governorate today but will also serve as a focal point for infectious disease surveillance and laboratory training for the future,” said Capt. Robin Wilkening, NAMRU-3 commanding officer. “Enabling self-sufficiency in public health laboratory capacity is a key goal of NAMRU-3’s mission in Egypt and throughout the Eastern Mediterranean region.”

Attendees were given a presentation

by CDC IEIP-Egypt’s Executive Director, Dr. Mohamed Abukela, on the historic background and current program accomplishments. Dr. Erica Dueger, NAMRU-3’s GDDRP head, summarized the surveillance data analyzed to date. Following the ribbon-cutting ceremony, attendees toured the new laboratories.

The Molecular Diagnostics Laboratory staff is currently detecting influenza virus from acute respiratory infection patients in IEIP’s population-based surveillance system. The TB Diagnostics Laboratory staff are facilitating tuberculosis diagnosis using conventional culture and a new, WHO-endorsed method called microscopic observation drug susceptibility assay. This testing technique will be used for patients from Beheira Governorate’s hospitals and for future disease surveillance activities. These laboratories will serve as a training facility for diagnostics, biosafety and biosecurity, and infectious disease epidemiology for local and regional laboratory, clinical, and public health professionals. The first training of this type, for Laboratory Risk Management and Biosafety, took place May 27-31. +



# A Century of Service

## A Look Back at 100 Years of Dental Corps History

The first mobile dental unit is placed into service in 1944 as Rear Adm. William Agnew, deputy surgeon general, and Rear Adm. Alexander Lyle, inspector of Dental Corps, examine the insignia. (Photos courtesy of U.S. Navy Bureau of Medicine and Surgery Library and Archives)

**Story by the Dental Corps Centennial Committee**

The dawn of Navy Dentistry began with an Act of Congress on Aug. 22, 1912. The Act establishing the Dental Corps held that all Navy dentists appointed must be “trained in several branches of dentistry, of good moral character, of unquestionable professional ability” and “shall pass a satisfactory physical and professional examination.”

By the end of 1912, fifteen dentists were serving on duty. Just over a year later, Rear Adm. Charles Stokes, the Navy Surgeon General, reported to the Secretary of the Navy that the Medical Department now had the ability to provide dental care that would allow the Navy to accept recruits who would otherwise be rejected for defective teeth.

With America’s involvement in World War I, Navy dental officers began to deploy aboard ships and with Marine units. By war’s end, dental officers were assigned to 22 of the 43 transports ac-

tive during the war.

Among the many sidebars of the “Great War” were stories of the two Navy dentists awarded the Medal of Honor while serving with the Marines in France — Navy Lt. Alexander Lyle with the 5th Marine Regiment and Navy Lt. j.g. Weedon Osborne posthumously with the 6th Marine Regiment. The memory of Lt. j.g. Osborne lives on today with an annual award given in his name to the junior dental officer who exemplifies the qualities of high character, superior leadership, and devotion to duty.

During the 1920s, Navy Dentistry began focusing heavily on prevention of disease, unique at the time and a quality that distinguishes the Corps today. Navy dentists demonstrated their skills throughout the 1920s and 1930s in Haiti, Nicaragua, and China. By 1939, 255 dental officers served at 22 major dental facilities ashore and afloat. Among them was the hospital ship, USS

Relief (AH-2).

On Dec. 7, 1941, two Dental Corps officers were killed and four wounded in the attack on Pearl Harbor; they would not be the last dental officers to die in the line of duty during World War II. As our nation prepped for world conflict, Navy Dentistry’s active duty numbers swelled to its highest levels ever — ultimately reaching 7,000 dental officers and 11,000 dental technicians. Active in nearly every engagement during the war, dental personnel assigned to operational units in the South Pacific often assisted in emergency medical operations ashore, especially facial trauma requiring surgery. Numerous dental officers were killed in action aboard warships and in major battles in Guadalcanal, Tarawa, Saipan, and Iwo Jima. For their heroic efforts, 93 dental officers received personal awards, to include the Silver Star, Legion of Merit, Navy and Marine Corps medal, and the Bronze Star.

The war years was marked by two other distinctions for the Navy Dental Corps — the first female and the first African-American dentist. In June 1944, Lt. Sara Gdulin Krout, reported to Great Lakes, Ill., becoming the first female dentist in the Armed Forces. Krout stayed in the Naval Reserves after the war and retired as a commander on Dec. 1, 1961. On Sept. 23, 1944, Lt.

**As our nation prepped for world conflict, Navy Dentistry’s active duty numbers swelled to its highest levels ever.**



Three Sailors practice brushing their teeth using portable Marine field dental equipment on the fan tail aboard USS Reeves in 1974

Thomas Watkins, Jr., the first African-American Navy dentist, was commissioned. Released from active-duty in 1946, Watkins retired from the Naval Reserves in September 1966.

In February 1945, Navy dentists began using the first self-contained mobile dental treatment unit. Mobile units were developed to provide dental treatment to small groups of naval personnel in isolated areas or pier side, a practice common today at many Fleet support areas. The concept of taking dental capabilities to the Fleet became so popular that in August 1945, plans were authorized to build four Dental Clinic Ships ... but these plans were cancelled when the war ended. When the Japanese surrendered aboard USS Missouri, there were 1,545 dental clinics in operation, with 459 dental officers alone at the Navy's largest clinic at Great Lakes.

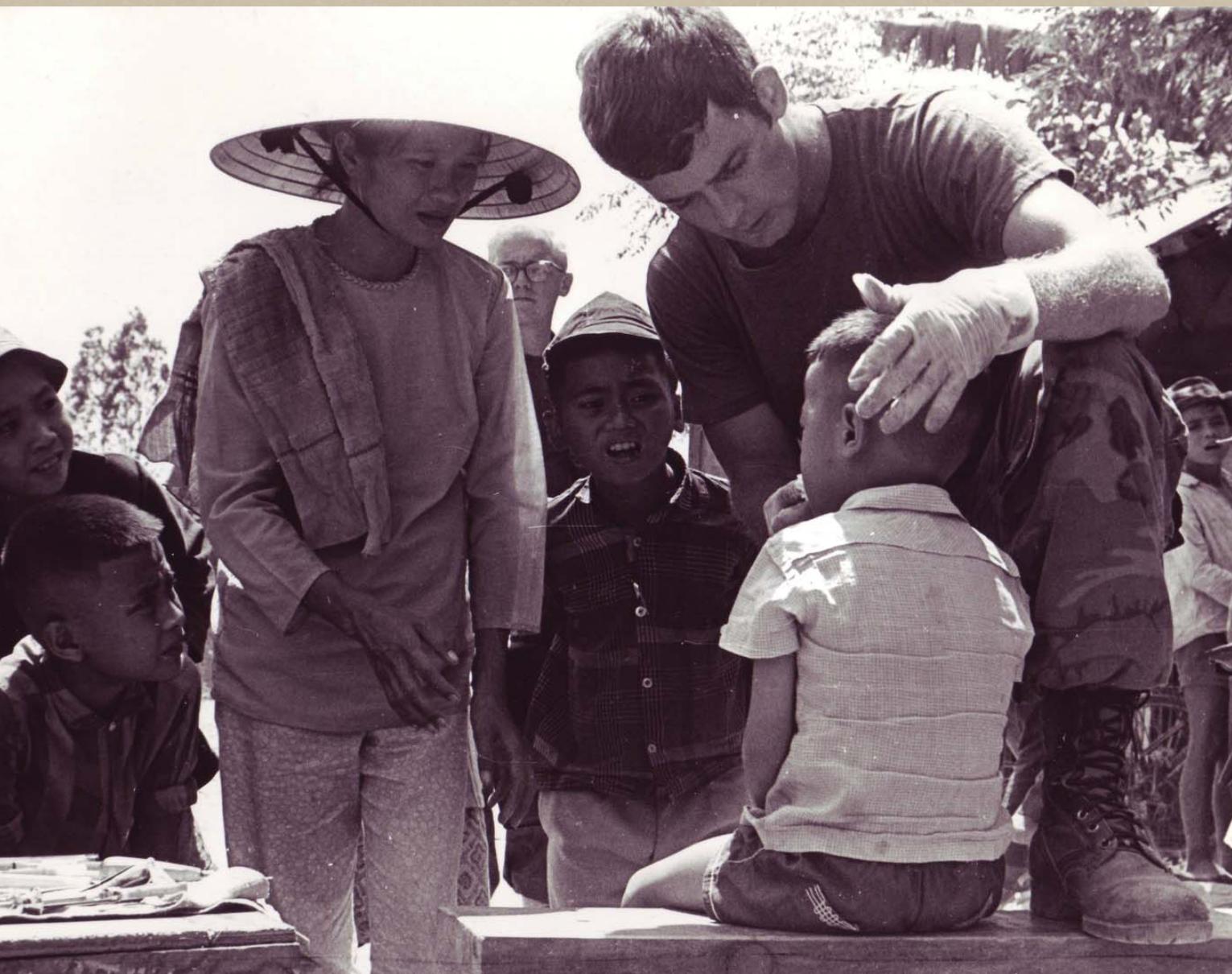
The Korean War saw new approaches

to frontline dental care with the use of Mobile Dental and Dental Laboratory Units. Wherever the Marines went, dental personnel were there, more often than not, assisting with casualty care and treatment. The provision of front line definitive dental care in Korea was initially considered impractical until the arrival of World War I style combat in 1951 which stimulated a new approach to this old problem. Major dental facilities were moved closer to the front, and two and a half ton six-by-six trucks were outfitted as Mobile Dental and Dental Laboratory Units.

At the peak of the Korean War, 1,900 dental officers supported by 4,700 dental technicians were on active duty. Fifteen dental officers and dental technicians earned personal commendations, to include the Silver Star, Bronze Star, and Commendation Ribbon with Combat V. The heroic performance of

Dentalman Thomas A. Christensen, Jr. was representative of the dedication and sacrifices of the men and women of Navy dentistry. He received the Navy Cross posthumously for valor demonstrated on Nov. 6 1950 while treating casualties.

By the 1960s, Navy Dentistry operated from 160 shore-based facilities and aboard 156 ships. To support Marine Corps operations, Navy Dentistry developed innovative ways to take their skills to the field. Able to deploy nine mobile dental units on trailers, the Dental Corps also developed more powerful rotary instruments and a field X-ray and developing unit. These field dental capabilities proved their worth, when a detachment of the 3rd Dental Company deployed with Marines to Vietnam in June 1965. Many more Dental teams would follow. Between 1965 and 1973, Dental Corps personnel from the 1st, 3rd, and 11th Dental Companies, along



As part of the Dental Civil Action Program (DENCAPS), Navy Dental Officers and dental technicians travel through Vietnam to Saigon to the northern enclaves of Hue/Phu Bai, Da Nang, and Chu Lai to treat dental ills in villages, orphanages, and schools in 1966. Their efforts also included teaching Vietnamese basic principles of dental care and hygiene.

with detachments of the 15th Dental Company, deployed to Vietnam in support of Marine Ground and Air Combat Units. In addition to caring for Marines, dental personnel participated in many civic action programs rendering humanitarian aid to Vietnamese civilians. They were also busily training Vietnamese dentists in basic and advanced dental procedures, as part of the “Vietnamization” program. At the peak of the Vietnam War, there were 420 dental officers and 790 dental technicians — approximately one fifth of the Dental Corps — deployed with Marine

units.

As the Cold War neared its inevitable end in the 1980s, a glimmer of a newer, more destructive conflict flickered in the Middle East. From 1982 to 1984, as turmoil reigned in Beirut, Lebanon during a bitter civil war, the U.S. Navy-Marine Corps team served as part of a small multi-national force trying to mitigate the carnage. At 6:20 a.m. on Oct. 23, 1983, the Marine Corps Barracks at the Beirut International Airport, housing American and French servicemen, was targeted by two truck bombs. The resulting blasts killed 299

American and French military personnel, including 220 Marines and 18 Navy personnel (of whom 15 were hospital corpsmen and one Navy physician). Two Navy dentists attached to the 24th Marine Amphibious Unit (MAU), Navy Lt. Gilbert U. Bigelow and Navy Lt. James J. Ware, survived the attack and immediately went into action mustering personnel to provide emergency medical assistance. Lt. Ware simultaneously set up a battalion aid station and, assisted by 10 hospital corpsmen and two dental technicians, performed initial triage, tagged and identified patients, started



The Prosthetic Laboratory at the Navy Dental School in 1931.

intravenous procedures, and provided such other emergency care. Bigelow and Ware provided treatment for 65 casualties in the first two hours following the explosion, and prepared their patients for evacuation from the aid station to ships offshore for further medical treatment.

During the Gulf War, dental personnel served aboard two hospital ships, three fleet hospitals, and 21 dental clinics in three countries. With the Iraqi invasion of Kuwait in August 1990, and the commitment of U.S. Forces to the region, detachments of the 1st, 2nd and 3rd Dental Battalions deployed in support of the 1st and 2nd Marine Divisions. Dental Battalion personnel ultimately established 21 dental clinics in three countries, in such places as the Marine Airfield at Shaik Iza, Bahrain; the Port of Jubail in Saudi Arabia, and in the desert sands of northern Saudi Arabia and Kuwait. The hospital ships

Comfort and Mercy brought their dental assets to the war effort, and active and Reserve dental personnel were deployed with each of the three Fleet Hospitals. In all, more than 90 dental officers and 300 dental technicians deployed in support of Desert Shield and Storm.

The events of Sept. 11 brought the dawn of a new era and forever changed life in America. At the Pentagon, the Tri-service Branch Dental Clinic personnel were among the first responders to the carnage. Without regard for personal safety, five members ran into the burning building to save life and limb, while others began initial triage and treatment of the injured.

Throughout the Global Contingency Operations, the Dental Corps continued to maintain high operational readiness, while training for all emergencies. Today, Navy dentists deploy routinely with Marine Expeditionary Units and

aboard ships, where beyond their dental duties they assume roles in triage and surgical support at Marine Battalion Aid Stations and Battle Dressing Stations. Dental personnel continue to play a significant role in peace keeping and nation building through humanitarian assistance and disaster relief missions in Third World countries.

As impressive as their past was, the Dental Corps continuously strives to improve on all fronts. Proud in uniform, outstanding in performance, and dedicated to provide the best for our Sailors and Marines, the Navy Dental Corps completes a successful chapter in their history ... and sprints into the next. +

*About the Authors: The Dental Corps Centennial Committee are represented by Chairman Cmdr. Karen Stokes, D.C., Capt. Patricia Coe, D.C., Capt. Andrew Peters, D.C., and Mr. André B. Sobocinski, Research Historian and Publications Manager, Office of Medical History.*

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