Tripler Army Medical Center
Public Affairs Office News Release

For Immediate Release
Release Number 04-059

Tripler neurosurgeon recalls work during Iraq war
CT scanner vital in helping surgeons do definitive surgery

by Les Ozawa

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HONOLULU—When you see Lt. Col. (Dr.) Daniel Donovan reviewing medical cases in his quiet, second floor office at Tripler Army Medical Center, away from even the daily bustle of hospital’s corridors and clinics, it’s hard to imagine that 13 months ago, he was in the midst of saving the lives of wounded and dying soldiers half a world away, in an Army combat hospital set up between two runways in a hot and dusty desert in Kuwait. “We were a very busy hospital during the first few months of the war,” said Donovan, “with patients of all kinds… coalition soldiers, Iraqi soldiers, civilians.”

As part of Operation Enduring Freedom and Operation Iraqi Freedom, Donovan and Lt. Col. (Dr.) John Iskandar from Madigan Army Medical Center at Fort Lewis, Wash., were the two neurosurgeons on the 252nd Medical Detachment (Neurosurgery), one of three neurosurgical teams in the theater during the first year of the war. “Our hospital did the majority of the neurosurgery during the first three months of the war, but the other team moved up to Baghdad and ended up doing much more than us during the rest of the year. After they got set up near Baghdad, they were closer to the wounded, so they got most of them first,” said Donovan.

A Warrant Officer who could repair anything

“The thing was, they had a CT scanner and we had a CT scanner-- the only two in the whole theater,” said Donovan. “Both of our CT scanners would frequently break down because of the conditions. But we had a great warrant officer who was our maintenance technician, who could repair anything. He wasn’t even supposed to know how to fix CT scanners but he fixed ours over and over and over. The CT scanner with the other team in Baghdad would frequently break, but couldn’t be fixed and was down for months. So sometimes they got patients and it was difficult for them to know exactly what surgery to do. They had to send some to us, just so the patient could get a CT.”

Chief Warrant Officer Morales, then assigned to the 47th Combat Support Hospital (CSH) from Fort Lewis, Wash. and now at Fort Bragg, N.C., was the team’s super repairman. “He was just fantastic,” said Donovan. “The CT scanner went down several times, because blood leaked onto the sensors or it overheated. He would take the whole thing apart, get the manual out and get it fixed. He deserves a huge thank you.”

The 252nd detachment was thus able to perform more than 20 major surgeries, including a successful, delicate brain tumor removal operation, in a patient too unstable to risk medical evacuation to a better-equipped hospital in Europe. Donovan believes this was the first brain tumor resection performed in a mobile combat support hospital.

Unlike the central air-conditioned comfort of Tripler Army Medical Center, doctors at the CSH in Kuwait faced other challenges. Most noticeable was the heat. “In the summer, the temperatures every day reached 125 to 130 degrees,” said Donovan. “There were, of course, some ECU’s (air conditioning units). They all ran off diesel-powered electrical generators, but the demand was so great that you couldn’t possibly keep everything cool. The OR (operating room) was one of the priorities to keep cool, but the generators went down frequently and it would get really hot. We knew a lot of soldiers in Iraq lived in worse conditions though, and especially with all the wounded there, it was easy to keep things in perspective.

Surgery the old fashioned way
Modern, working medical equipment was also in short supply. The pre-packaged equipment for Donovan’s neurosurgical team was transported by ship, so the doctors only found out when they got there, that some of the equipment didn’t work. “Fortunately, we had brought some old-fashioned tools ourselves, and so we were able to do surgery the old-fashioned way,” said Donovan, who had packed some hand-held tools from Tripler in a duffel bag.

“But we had an excellent team of people, particularly in the OR,” said Donovan. “Throughout the hospital, the nurses and medics were really good. Particularly in the operating room - the anesthesiologists, the nurse anesthetists, the OR nurses. We would get patients in extremely quickly, do the surgery, and be out and ready for the next one with no delays.”

While some of the neurosurgery team members had worked together, having come from Madigan Hospital, Wash., others, like Donovan, had not. Still, “everyone pitched in and overcame problems right from the beginning,” said Donovan. “We never had an average work day. There were mass casualty situations where you might have 40 or 50 people coming off a bus or a plane, and other days where we saw hardly any wounded.” The CSH was located between two runways, which the Air Force used regularly to fly between the war zone and Germany. The conveniently located hospital was widely known to pilots who bee-lined their wounded passengers to the airstrip. Many of the patients were brought in by helicopter, and sometimes the neurosurgical team had only a few minutes notice.

Donovan said that at first, there were many mass casualty situations and the hospital staff worked throughout the day and night. After the initial combat phase, they saw more patients involved in rollovers and other motor vehicle accidents. “It actually slowed down quite a bit in July,” he said, “to the point where we started seeing sick call, routine things, to pitch in and help. We did very little surgery. Then in August, it picked up again, with the UN bombing and attacks on British soldiers in Basra.”

In comparing his work at Tripler with that during Operation Iraqi Freedom, Donovan said, “The surgery itself is the same, although the wounds are not what you see every day. You have to pay more attention to equipment and supplies, though.” While medical training exercises familiarized him with the CSH, the battlefield medical supply system, and the portable emergency operating room, Donovan said, “There are some things you’re not going to know until you’re doing it for real.”

“Because of the body armor, extremity wounds are by far the most common wounds of all, something like 70 to 80 percent of all injuries,” said Donovan. “Head and neck wounds are one of the more common ones after that, so there were a lot of neurosurgery patients to see.

**Kevlar helmet works**

“The Kevlar helmet works,” said Donovan. “I can tell you from experience, it really helps to protect against injuries. There are certain areas that are not protected, like the eyes. That, and the back of the skull below the helmet were the two main areas where we saw penetrating wounds.”

Donovan noted that the neurosurgery team often operated on British soldiers with penetrating head wounds. “They told me there’s not as big a tradition or enforcement of wearing helmets as in the American Army,” he said. He recalled treating British soldiers riding in a Humvee during a riot. Huge rocks were thrown through the Humvee windows, causing open, depressed skull fractures, because they weren’t wearing helmets. In another incident, British paratroopers were flown in by helicopters to rescue military policemen under attack. Shots fired from the ground ricocheted off their helicopter’s roof and entered their brains from the top of their skulls, because they weren’t wearing helmets.

In talking with neurosurgeons from the Vietnam War era, Donovan found that they faced the same challenges, with some exceptions. “They saw a lot more patients in general, and they didn’t have CT scanners then,” said Donovan. “That was a big advantage for us. We did a lot of definitive surgery at the CSH. Very few, if any, soldiers had to be re-operated on when they got back to the States. The challenges of keeping the CT scanner working were very difficult.

“The one and only radiologist we had at the CSH was Lt. Col. Mike Citrone. He and his crew did yeoman’s work keeping the CT area cool enough for the machine to operate, like putting doors on the tent to keep cooler air..."
in, adding extra ECU's, and ensuring a dedicated power supply," said Donovan. The doors and other changes were needed to deal with the heat and electrical outages.

"I don't think any of us knew going in what to expect," said Donovan. "Where we would be going, and what we would be doing exactly. But I think the surgery we ended up doing was very similar to what has been described in past wars."

The sometimes constant flow of patients at the beginning was something everyone at the CSH learned to deal with. "You get a lot of experience from that," said Donovan. "There were a lot of people not familiar with neurosurgery in the hospital, so you help them learn how to care for these patients. Everyone learned to improve their care for patients in that environment, including us."

For his service as a staff neurosurgeon during Operation Iraqi Freedom from April 14 through September 15, 2003, Donovan, along with Dr. Iskandar and some others assigned to the 47th Combat Support Hospital, were awarded the Bronze Star medal. During this period, Dr. Donovan performed 20 major operations, treated 50 patients for injuries not requiring surgery and 25 patients with spine fractures.