Beekley's Combat Experience Informs Research and Protocols at Home and Abroad

Associate Professor Alec Beekley, MD, joined the Division of Acute Care Surgery in July 2010. As both a trauma surgeon and a bariatric surgeon, he will now apply the experience he gained during multiple tours of duty in Iraq and Afghanistan, where he served as Lieutenant Colonel in the U.S. Army Medical Corps and was awarded a Bronze Star.

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Dr. Beekley completed his residency at Madigan Army Medical Center in Ft. Lewis, Washington. From November 2002 through March 2003, he served as staff surgeon for the 102nd Forward Surgical Team stationed in Afghanistan. In April 2004 he deployed with the 912th Forward Surgical Team to Al Mussayib, Iraq, and then volunteered to stay another six months at the 31st Combat Support Hospital (CSH) in Baghdad when the insurgency was growing. During Operation Phantom Fury (November and December 2004) he experienced one of the war's highest monthly caseloads: some one thousand casualties, which he and his team treated around the clock.

It was during this first deployment to Iraq that Dr. Beekley witnessed that a significant number of the casualties were arriving to the hospital trauma bay not having been treated with tourniquets. He believed that, in some cases, tourniquets would have saved lives. This experience made Dr. Beekley an expert on tourniquet use in injury to the extremities, and he created one of the war’s first datasets on tourniquet use which has since been cited in dozens of publications reexamining the protocol for tourniquet use in combat triage. Dr. Beekley also helped develop a trauma database and registry for the joint theater. "There were many ‘grass-roots’ researchers collecting data as casualties were coming in," Dr. Beekley explains. "In most cases, these researchers were interested in a specific topic, such as vascular injuries. The challenge was to collect meaningful clinical data for every case, given how quickly soldiers were being treated."

Based upon Dr. Beekley’s findings, Colonel John Holcomb, who headed the Army’s Institute for Surgical Research, recommended to the Surgeon General that the Army provide some 400,000 modular tourniquets that soldiers could carry in an individual first aid kit (IFAK). During the troop surge in 2007, Dr. Beekley was again deployed to Iraq as Director of the Deployed Combat Casualty Research Team. There he continued to direct research in multiple areas of combat casualty care including the use of fresh whole blood (rather than stored platelets and plasma) in resuscitation. He recalls distinctly the dramatic effect of fresh whole blood on a soldier in critical condition, who was quickly stabilized when he was transfused with 22 units donated by his fellow soldiers. This and similar observations by others at the 31st CSH prompted a reexamination of the entire blood transfusion protocol, which historically called for fresh whole blood infusions only once supplies of stored platelets and plasma had been exhausted.

Dr. Beekley is honored to have played a role in these areas of surgical research. "I think of medical research as a process," he says. "Everyone can't publish the breakthrough findings, but every little piece contributes to the overall advancement of knowledge."

The Department of Surgery is grateful to benefit from Dr. Beekley’s unique and valuable experience gained during his service to our nation.