

10 Years of SOF Rotary Wing CASEVAC Missions, Training and Equipment: A Retrospective View from the 160th SOAR (A)

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ABSTRACT

On 3 October 2001, the first chalk of Night Stalkers left Campbell Army Airfield enroute to Uzbekistan in support of what would become our nation's longest war. The vast majority of Soldiers were untested in war and would quickly have the opportunity to meet with the enemies of our nation in close combat. The two Special Operations Task Forces (TF), TF Dagger to the north in Uzbekistan and TF Sword in the south (aboard the USS Kitty Hawk) were our nation's first strike options against Al Qaeda and Taliban forces in Afghanistan. Due to the inherent nature of forced entry operations (restrictive terrain, lack of medical infrastructure, etc.) TF Dagger and TF Sword utilized 160th Special Operations Aviation Regiment (Airborne) [SOAR (A)] rotary wing aircraft solely for the Casualty Evacuation (CASEVAC) operations during the first months of Operation ENDURING FREEDOM.

The first rotary wing CASEVAC mission of Operation ENDURING FREEDOM took place on 25 November 2001 and was carried out (by the author) aboard an MH-47E flown by members of TF Dagger from Karshi-Khanabad (K2), Uzbekistan. The mission was to extract several wounded SF Soldiers from 5th Special Forces Group (Airborne) [SFG (A)] who were severely injured after a Joint Direct Attack Munition (JDAM) was mistakenly dropped on their position. This mission was like many in an immature theatre, characterized by long flight times (4.5 hours round trip), scarce surgical resources, and limited or inaccurate communication. The injured were evacuated to members of the 274th Forward Surgical Team (Airborne) [FST (A)] in K2, with follow-on theater evacuation to Landstuhl Regional Medical Center. The use of CASEVAC from the point of injury (POI) to a fixed facility to provide surgical care would evolve but still retain the same structure during the wars both in Afghanistan and Iraq.

160th SOAR (A) CASEVAC operations are an integral part of the mission profile for the Special Operations Forces (SOF). Every flight of 160th SOAR(A) aircraft has at least one Night Stalker medic or medical officer on board. Difficult lessons were learned after many "routine" missions suddenly turned into a contingency operation in which wounded personnel required evacuation. The use of a dedicated 160th Special Operations Combat Medic (SOCM) aboard assault aircraft as an embedded medical asset gives ground force commanders maximum flexibility by eliminating the requirement for a medic organic to the team to leave the target during evacuation in the event of an ongoing engagement.

Since the first CASEVAC, the medical section of the 160th SOAR (A) has carried out nearly 2,000 CASEVAC missions in both Iraq and Afghanistan. These missions have been an integral part of contingency execution in Special Operations missions in the deployed environment. We have lost two medical brothers, SFC Marcus V. Muralles, killed in action in Afghanistan during Operation RED WING when the MH-47E he was aboard was shot down by a rocket-propelled grenade (fig 1), and SSG Shawn McNabb, killed when the MH-47G he was aboard crashed into the mountainous terrain of Afghanistan (fig 2).

Training

In the late 1990s, the U.S. Army Special Operations Command (USASOC) mandated that all assigned 91B Medical Specialists be Special Operations Combat Medics (SOCM W1). During this same timeframe there was a requirement that a W1 SOCM and 18D Special Forces Medical Sergeant also be Nationally Registered Emergency Medical Technician – Paramedics (NREMT-P). In the initial days of both Operation ENDURING FREEDOM and IRAQI FREEDOM (OEF/OIF) the skill set of the 160th medic was based upon a multitude of training

Figure 1 SFC Marcus V. Muralles



Figure 2 SSG Shawn McNabb

evolutions to include SOCM, Green Platoon, Airborne, Survival Evasion Resistance Escape-C (SERE), advanced SERE, Water Survival, and Combat Trauma Management training. Although USASOC no longer required the SOCM or SFMS to be NREMT-P by 2005, the medical leadership in the 160th adopted NREMT-P as well as Flight Paramedic Certification (FP-C) in 2009 as a requirement to become *fully mission qualified* (FMQ). This was due in large part to the difficult nature of prolonged in-flight medical care in austere environments, as well as an easily-recognizable skill set when operating stateside while covering routine training. Critical care training became a focal point for the 160th CASEVAC team.

Training newly assigned SOCMs and medical officers (MOs) to the SOAR organization was formalized with a training program to teach the nuances of in-flight care as well as specific aspects of unit operations. The initial course was held by the unit and began in 2006, which would later evolve into the Special Operations Aviation Medic Indoctrination Course (SOAMIC, ATRRS 6A-F23/300-F41). This course provides invaluable SOF-specific training (hoist/fast-rope/etc.) and allows for

replicating multiple combat scenarios seen by unit medical personnel. The program of instruction for SOAMIC is based on lessons learned, current TTPs in theater, as well as historical data from previous missions.

Current policy mandates all unit medical personnel attend a Combat Trauma Management (CTM) training event, as well a Full Mission Profile (FMP) event yearly. This FMP focuses on operational medical planning, integration of multiple assets (rescue, assault, surgical), and the CASEVAC mission itself (fig 3). These scenarios focus not only on current conventional casualties (gun shot wounds, blast injuries, etc.) but also the management of chemical, biological, radiological, nuclear, and explosive (CBRNE) injury patterns. The FMP also provides a demonstration to the leadership of the section on individual and group performance, identifying potential shortfalls as early as possible (figs 3–5).

Equipment

Until the advent of today's robust vendor-supplied medical material system unit medical personnel relied heavily on the construction of their kit with limited resources. Around 2003, there was very little widespread DoD emphasis on CASEVAC, coupled with little commercial interest in building specific kits specifically designed for combat medics. In early 2000 medics and medical officers from the 160th SOAR (A) worked with Industry to develop the first commercial helicopter

Figure 3 Full Mission Profile



Figure 4 Full Mission Profile Training



Figure 5 Full Mission Profile Training



medical kit designed specifically for CASEVAC. It was a three-panel system focused on large numbers of casualties and providing what was (initially thought) was needed in time of war. As many of our counterparts in other organizations realized, simply too much equipment was being carried for the mission at-hand. These lessons learned led to the evolution of kit aimed at slimming down items taken forward in flight and on the ground.

The complete CASEVAC set used by the 160th was quite cumbersome and resulted in logistical challenges when an aircraft became inoperable, requiring execution of a bump plan (movement of crews and equipment to another helicopter in the event of a mechanical problem). After several years it became apparent that equipment was being carried that was rarely (if ever) utilized. Items such as defibrillators, redundant hanging medical bags, and wall mounted stanchions for patient transport to name a few. CASEVAC set weights were reduced from 350 lbs to (a current figure of) 175lb today (figs 6, 7). Although this may seem insignificant, every pound on the aircraft directly impacts the ground force commander's

Figure 6 OEF Initial Invasion CASEVAC Kit, MH-47E



Figure 7 Current CASEVAC Kit, MH-47G



ability to push combat power forward, affects rate of fuel burn, maximum aircraft speed, as well as handling characteristics in an already difficult operating terrain.

Medical equipment has changed drastically since the early days of OEF and OIF, with many ground-breaking devices such as hemostatic agents, procoagulants, and other technologies aimed at reducing death on the battlefield. Evacuation aboard a helicopter presents unique challenges to both the patient and the medical operator working on the aircraft. Critical care for SOF casualties led to the development of a critical care system offering a streamlined package for use while in-flight or in vehicles. The case, initially developed by United States Army Special Operations Command (USASOC) medics from Ft Bragg was adapted for use by the 160th and would become a standard across the regiment in 2009. Today this case utilizes the SaVE ventilator, a EMMA Emergency Capnometer, Buddy Lite Blood and Fluid Warmer, Propaq monitor, EZ-IO drill, combat analgesia kit, and a Transexamic Acid kit (fig 8).

There has also been an evolution of the personal kit used while in flight for 160th medics and medical officers. During the initial invasion phase of OEF, much of the medical equipment was based on SOCM Programs of Instruction (POI)s (using the M-5 aid bag) and adapting unit internal tactical equipment (fig 9). After reviewing After Action Reports (AARs), the medics transitioned to a medic-focused kit that utilized custom-made pouch sets allowing for the medical operator to treat two to three casualties from pouches on their body armor, and three to four from the waist-carried aid bag (fig 10). Currently, the medical kit focuses on maximizing economy of motion, reduced weight, and slim profile to better allow movement during CASEVAC operations (fig 11).

The current kit also includes the Atlantic Signal, LLC Tactical Medical Intercom System™ (TMICS), a person-to-person intercom device allowing the evacuating medic to plug into the headset of the ground medic and

Figure 8 Critical Care Case



receive a proper handover under rotor wash and engine noise. It also gives medical personnel the ability to communicate with a conscious casualty through their headsets while in flight. We have found this valuable both as a tool to quickly investigate the nature of injuries, as well as providing the calming benefit to the patient who has just been wounded.

Future Considerations

As the enemies of our nation continue to plot against U.S. national interests, SOF will continue to be called upon to project power on foreign soil. These limited engagements and forced entry operations will require a re-thinking of operational considerations as well as enemy threats in an ever-changing tactical setting. CBRNE, although rarely executed, will always be a critical portion

Figure 9 OEF Initial Invasion Flight Kit



Figure 10 OEF/OIF/OND Flight Kit 2005–2010



Figure 11 Current Flight Kit



of SOF Medicine roles and capabilities. Novel approaches to patient treatment will need to be further exploited, such as Battlefield Acupuncture (BFA), the use of ultrasound in detecting potentially life-threatening injuries, and the continued development of truncal tourniquets such as the Abdominal Aortic Tourniquet (AAT). The use of blood products and procoagulants has the potential to forever change how SOF medics prevent and treat both hemorrhage and coagulopathy on the modern battlefield. Special Operations medical personnel are at the forefront of battlefield medicine and develop life

devices and procedures with far-reaching effects across the DoD.

In closing, we medical providers must focus our training, equipment development, and thought processes for the next conflict. Initial/forced entry provides a multitude of obstacles and challenges that are always forgotten in the “rotational” war we have been fighting for many years. Many medical breakthroughs have not been breakthroughs at all, but due to the fast-paced nature of Special Operations medicine we have all been quick (sometimes too quick) to jump on the latest and not always greatest new thing. This is due in part to our aggressive nature, ability to conceptualize novel approaches, and of course, large budgets. In the upcoming years and increasing fiscal restraints we will again need to focus on whether or not something is mission critical, mission essential, or mission enhancing. Mission enhancing training and kits

will likely need to fall by the wayside. The barometer for prioritization of training will be what truly saves the lives of America’s sons and daughters.

Night Stalkers Don’t Quit!

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