Medics save lives with newly developed medical

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An Army medic performs medical assistance to a casualty during a training exercise. (Photo courtesy of 160th SOAR (A) Public Affairs)

"*As with any aspect of medicine, change is a necessary part of growth and development in order to adapt to an ever-evolving world.*"[1]

- Capt. L. Kyle Faudree, former 160th SOAR (A) regiment physician assistant and medical standardization officer

Noncommissioned officers have played an important role in shaping, training, and mentoring Soldiers for centuries. They also play a crucial role in saving Soldiers' lives as medics, whether as test volunteers, assistants, or surgeons.[2]

Historical NCO Medics

Medics have been a part of the U.S. Army since its early years as the Continental army. "Hospital stewards," also known as medical NCOs, were assigned as early as December 1775.[4] During efforts to reorganize the Army in 1803, talented NCOs were recruited and selected as hospital stewards in the medical wards.[5]

Within this role, they provided healthcare to Soldiers and were required to have skills few Soldiers possessed at that time, such as literacy with backgrounds in math, chemistry, or knowledge in the preparation and dispensing of medicine.[6]

In 1808, Dr. Edward Cutbush, medical director of the Pennsylvania militia during the Whiskey Rebellion and author of the first hospital administration manual, described medical NCOs as "individuals who were honest and above reproach."[7]

After the Civil War, several methods, such as challenging math, chemistry, and written tests, were put in place to ensure only the best NCOs joined the Army's medical department.[8]

The medics' role continued to evolve, and by the 1920s they played an integral part in testing and advancing medical technology, as well as supporting new medical officer training.[9] During the Vietnam War, NCOs in charge of the battalion aid stations trained flight medics, to ensure they were capable of performing their crew chief duties and fulfilling the medical needs of the unit.

Contemporary NCO Medics

Today, combat medic specialists (68W) continue to support unit well-being by providing treatment and assisting in the development of new technologies.

Sgt. 1st Class Derrick Flowers, regiment medical standardization instructor, Headquarters and Headquarters Company, 160th Special Operations Aviation Regiment (Airborne), is the company commander's technical advisor and helps the regimental surgeon and senior medic develop, implement, and manage the Aircrew Training Program.[10]

Master Sgt. Douglas Wonacott, senior medic, HHC 160th SOAR (A), is responsible for developing and implementing training requirements under the regimental surgeon's policies and procedures which affect the regiment's flight medics. He is also in charge of recruiting, manning, equipment, and resourcing for the regiment's medics.[11]

Flowers and Wonacott explained that all new medical technology must go through the regiment's medical requirements review board, which happens when a medic or medical officer learns of new technology and produces a "Medical Force Modernization Quad Chart" to the review board for voting.[12] A majority is required to implement the technology as a new standard.

Technology such as tourniquets and blood products, which give medics the ability to administer clotting factors and oxygen to the trauma patient (instrumental in prolonging life until they deliver the patient to a surgeon), tremendously reduces mortality and morbidity to combat casualties.[13]

Recently, a 160th SOAR (A) medic administered blood replacement therapy, a Focused Assessment with Sonography in Trauma Exam, and a needle decompression all within a 7-minute flight.[14] Trauma surgeons, who received the casualty, said the service member would not have survived if it were not for the blood replacement therapy at the point of injury.[15]

These types of medical technologies and procedures, which medics administer in the field, save Soldiers' lives.

Reintroduction of Medical Technology

It is important to note that NCOs are not only crucial in the development, testing, and approval of new medical technology but also play a role in introducing improved medical items, such as a freeze-dried plasma. In 2013, Sgt. Bryan C. Anderson, currently an Interservice Physician Assistant Program student at Joint Base San Antonio, Texas, saved Cpl. Josh Hargis' life by administrating freeze-dried plasma after he stepped on a landmine.[16] Though an increasing number of medics carry freeze-dried plasma onto the battlefield, this type of plasma is not a new concept to the military.

Due to its ability to restore and maintain normal blood pressure, plasma was first proposed for military use as a blood substitute for combat causalities as early as 1918.[17] By World War II, medics carried dried plasma to the front lines. However, by the start of the Vietnam War, the drying and preservation techniques harbored hepatitis, eventually leading to a hepatitis outbreak and the use of plasma was discontinued.[18]

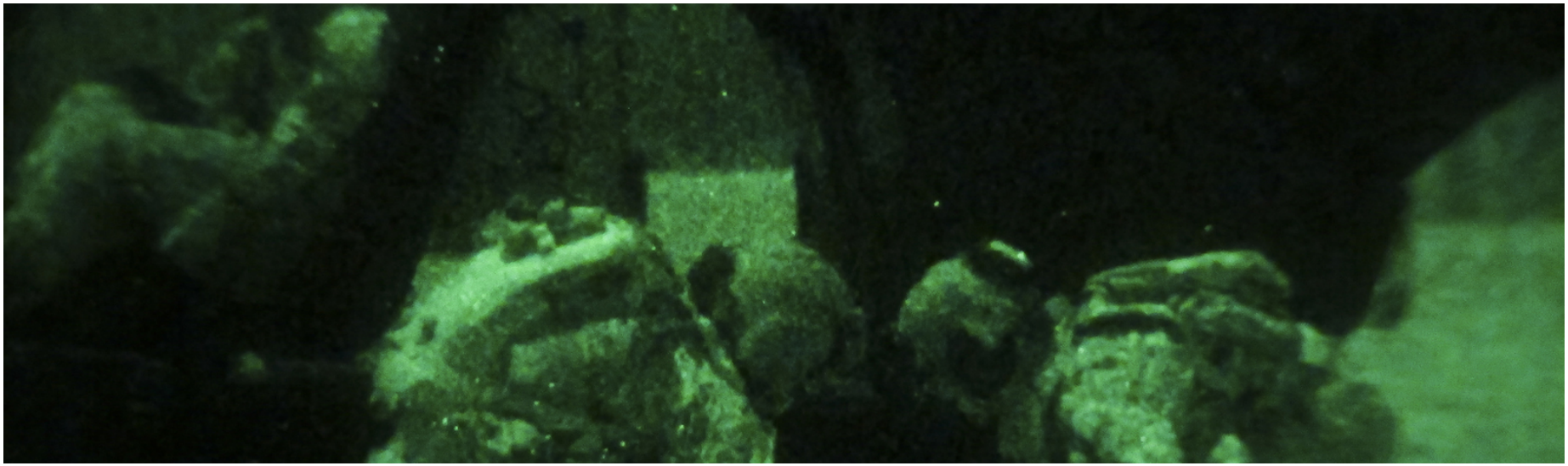
Today, strict measures, such as improved drying and preservation methods and sterile water included in the plasma kits, guarantee the safety of freeze-dried plasma.

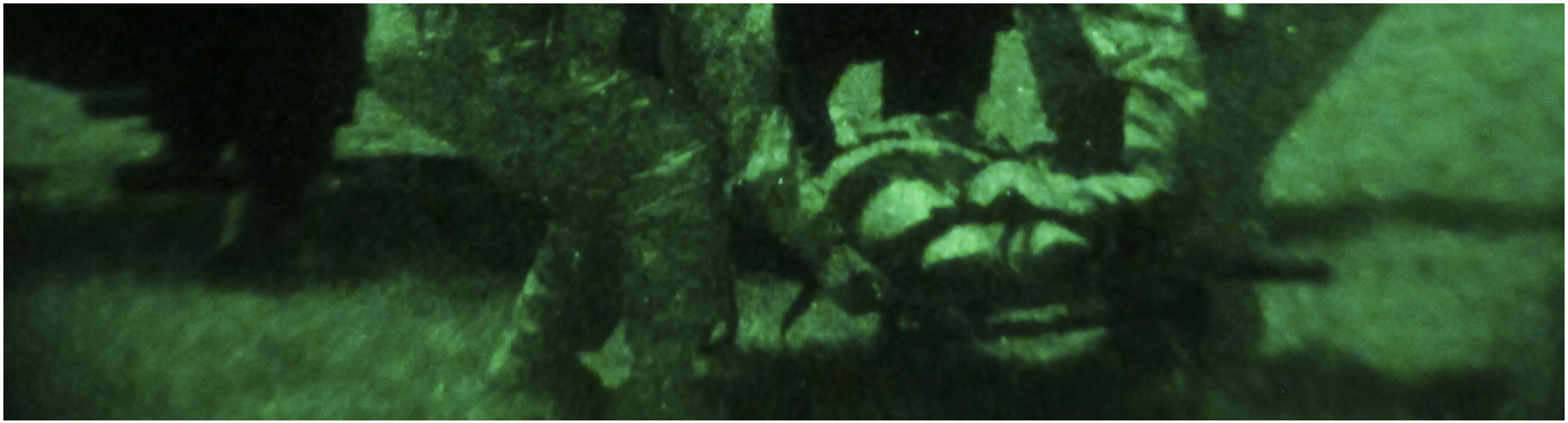
Potential Technology

For the Medical Corps to meet Soldiers' evolving needs, they must embrace the new technologies and techniques of an ever-changing world. Below are examples of some of the technologies currently under development. [19]

Helmet Cameras for Medics

The Department of Defense challenged Clemson University to create cameras medics can wear on their helmets to record treatment they provide in the field.[20] The device is capable of recording audio while filtering out battlefield noise. This would mean that medics would not have to juggle between treatment and writing down medical notes, while doctors will be able to watch the playback and understand the medic's audio notes describing the Soldier's injuries and the treatment he or she received. Additionally, the Soldier would have video evidence that their injuries are combat-related.





Army medics perform a medical evacuation during a night training exercise (Photo courtesy of 160th SOAR (A) Public Affairs)

Ultrasound Imaging

The possibility of using ultrasound imaging rather than radiology to detect bone fractures has been a point of discussion in the civilian and Army Medical Corps for more than a decade.

In "Fracture Detection in a Combat Theater: Four Cases Comparing Ultrasound to Conventional Radiography," Sgts. 1st Class David Hubler and Robert Lopez, along with their officer counterparts, describe ultrasound as a rapid, non-invasive, and effective alternative to conventional radiography for the Special Forces medical sergeant, particularly in the deployed setting.[21] Due to operating in "austere environments (where available resources limit decisions regarding patient management), portable ultrasound may allow for the detection of fractures in environments where other imaging modalities such as radiography are not readily available or practical."[22]

Combat Lifesaver Course

Non-medic Soldiers can become certified as combat lifesavers through the CLC, which equips them with the knowledge to perform emergency medical procedures.

"The combat lifesaver course is a vital tool that provides non-medical [personnel] Soldiers the training needed to provide lifesaving measures beyond the level of self-aid or buddy aid," said Sgt. 1st Class Fallicia M. Keith, education division NCOIC,

Fort Leonard Wood, Missouri.[23]

During combat, combat lifesavers can apply lifesaving procedures, such as: Removing patients from a combat zone, sending radio messages, performing needle chest decompressions, etc., and stabilizing them until evacuation or a combat medic is available. They can also assist medics by stepping in to help with the injured.

The 40-hour CLC course consists of three phases: Care under fire, tactical field care, and casualty evacuation care. Once completed the certification is valid for up to one year. Annual recertification is required. To learn more, go to, https://www.us.army.mil/suite/files/30315325 (https://www.us.army.mil/suite/files/30315325).

FDA and DoD Health Affairs Joint Program

The U.S. Food and Drug Administration and DoD Health Affairs are conjointly hosting a program to "prioritize the efficient development of safe and effective medical products intended to save the lives of American military personnel."[24]

"This partnership reflects the invaluable collaboration between Health Affairs and the FDA to equip U.S. warfighters with the best possible military medical support as we work to achieve a safer, more secure world," said Tom McCaffery, acting assistant secretary of defense for Health Affairs. "Expeditious access to life-saving medical products for U.S. troops on the battlefield is part and parcel to ensuring our shared priority of operational readiness."[25]

The program will look at medical products developed and manufactured for service members, and the medical needs of deployed Soldiers.[26]

Conclusion

Medical NCOs ensure that Soldiers obtain and maintain battle readiness. On the field, they risk their lives alongside their comrades by treating, evacuating, and operating on injured Soldiers. Off the field, their skills and knowledge continue to support Soldiers' healthcare through research and studies, which contribute to medical technological developments and affect lives within and outside the Army.

Upcoming Articles

"Gold Book: Healthy Responses to Stress" by Kimball Johnson, NCO Journal

"New Study Shows PTSD as Physical Rather than Psychological" by Crystal Bradshaw, NCO Journal

Related Articles

"Vaccines, What NCOs Need to Know" (http://www.armyupress.army.mil/Journals/NCO-Journal/Archives/2017/December/Vaccines/) by Kimball Johnson

"Burn Flight Team Saves Lives, Breaks Records" (http://www.armyupress.army.mil/Journals/NCO-Journal/Archives/2017/February/Burn-Flight-Team-Saves-Lives-Breaks-Records/) by Meghan Portillo

"NCOs Work Behind the Scenes of Army's Best Medic Competition" (http://ncojournal.dodlive.mil/tag/army-best-medic/) by Meghan Portillo

"NCO's medic skills saves civilian, himself" (https://www.army.mil/article/157547/ncos_medic_skills_saves_civilian_himself) by Joel McFarland

"Medical Diplomacy in Full-Spectrum Operations" (http://www.armyupress.army.mil/Portals/7/military-review/Archives/English/MilitaryReview_20071031_art010.pdf) by Major Jay B. Baker

Notes

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