Jungle Medicine Course Trains for the Austere

LTC BRANDON GROOMS DR. (MAJ) KAITLIN HARPER CPT KYLE MOGENSEN 1SG WAYLON K. WREN

Deep in the jungle, covered in mud and sweat, a U.S. Army combat medic rushes to apply critical medical interventions to a grievously wounded Infantry Soldier who is rapidly losing blood. Ignoring exhaustion, stress, and the incessant biting from jungle insects, the combat medic knows that every second counts. This may sound like a scene from a Hollywood movie; however, it's from a hyper-realistic training event recently conducted in the Hawaiian jungles on the island of Oahu. As the Army transforms to prepare for large-scale combat operations (LSCO), it must develop innovative medical training that will expand freedom of action, extend operational reach, and ensure prolonged endurance on a multidomain battlefield against a near-peer adversary.

Throughout the course of repeated deployments and exercises across the Indo-Pacific and Asia, combat medics reported a knowledge and capability gap in providing care in jungle environments. The way the U.S. Army conducted medical training in the past is not sufficient for future operations on a contested battlefield and austere jungle environment. The U.S. Army's 325th Brigade Support Battalion (BSB), 25th Infantry Division (ID) created the Jungle Medicine Course at Schofield Barracks, HI, to train combat medics in the medical knowledge they will need to use to preserve the fighting force in a jungle environment.

The 25ID is the U.S. Army's premier jungle warfare expert and America's Pacific Division. Combat units across the division and the broader U.S. Army regularly come to Hawaii to train on special techniques to survive, fight, and win in jungle terrain, which is prevalent across the Indo-Pacific region.



Soldiers from 3rd Squadron, 4th Cavalry Regiment use a rope and z-pulley system to move their simulated casualty during the Jungle Medicine Course on Schofield Barracks, HI, on 25 January 2023. (Photos courtesy of 3rd Infantry Brigade Combat Team, 25th Infantry Division)

As the division prepares for LSCO, it is essential that medical professionals rethink how treatment is provided on a modern battlefield. Considering the added difficulties that only a jungle environment can present, such as prevalent disease, limited mobility, and extremely rugged terrain, the need for specialized medical training is required. Over the course of two weeks, medical professionals from the 3rd Infantry Brigade Combat Team, 25ID trained Soldiers from more than 11 conventional Army units, the 3rd Special Forces Group, the 75th Ranger Regiment, and U.S. Navy corpsmen in what was clearly among one of the largest and most dynamic conventional medical training events in recent history at Schofield Barracks.

An Undeniable Combat Threat

The U.S. Army has been fighting wars in jungle terrain since the Spanish-American War. The 25ID honed its jungle warfare skills fighting in Guadalcanal and New Guinea during World War II, the Korean War, and the Vietnam War. History has taught us that often the biggest threat to the U.S. Army is disease and non-battle injuries (DNBI), as jungle warfare introduces many different hazards, diseases, insects, animals, and environments that threaten the health of the fighting force. During World War II, malaria and dysentery were significant contributors to the eventual surrender of U.S. forces in the Philippines. In the jungles of Vietnam and the Pacific theater in World War II, DNBI accounted for more than 65 percent of battlefield admissions. During Operation Iraqi Freedom and Operation Enduring Freedom, the fatality rate from combat injuries decreased from 19.1 to 9.4 percent, reinforcing the importance of medical training to continue this downward trend.¹

Studies involving all U.S. conflicts in the Pacific Theater note the greatest impact on American combat strength was the cumulative effect of disease. Combat medics are proficient in Tactical Combat Casualty Care and treating traumatic injuries but receive minimal training regarding jungle medical threats such as malaria, waterborne illnesses, snake envenomation, or pharmacology outside of traumatic injury treatment.² These threats can drastically reduce the combat effectiveness of a warfighting formation and lead to its eventual defeat. Prolonged field care performed by medics will be critical in the LSCO environment because it will keep maneuver forces healthy and able to engage and prevail over adversaries.

Medics in a jungle environment need to consider and address the impact of the austere and arduous environment on patient care. During prolonged field care, patients may require blood products, which may not be readily available via traditional methods. Combat medics must understand the risks and considerations of blood transfusions and show proficiency in initiating a walking blood bank, the tactic of mobilizing Soldiers to donate blood in real time for immediate transfusion needs. To prepare for future conflicts, combat medics must understand how to move a casualty from the point of injury, through thick vegetation and the variable, unforgiving jungle terrain, to reach a higher level of care. This is no walk in the park.

Fourteen-Day Remote, Intense Preparation

The jungle environment is unique, arduous, and unforgiving, presenting its own set of challenges, which cannot be replicated effectively elsewhere in the continental United States. The Jungle Medicine Course was created to train combat medics in the conditions they are most likely to experience in crisis or conflict. Although at times the scenes were unsightly, the training was unparalleled. Spanning two weeks, the course started with a week of classroom instruction and hands-on training facilitated by 25ID doctors and physician assistants. The second week consisted of intensive field training and additional robust hands-on exercises. The 3/25ID originally developed and implemented the first Jungle Medicine Course in 2022 and oversaw its significant expansion in 2023. To date, more than 300 medical personnel have participated in the course. For the 2023 course, the pass rate for the initial classroom teaching portion totaled more than 95 percent.

During the classroom portion of the course, medics received lectures from physicians and advanced practice providers on malaria and mosquito-borne illness, jungle dermatology, envenomation, environmental threats, and common orthopedic injuries. Medics were taught how to purify water, jungle pharmacology, prolonged field care, and recognize and treat diarrheal illness. The classroom lectures were followed by hands-on training. The 25ID Lightning Academy Jungle School instructors, Special Forces medics, and 75th Ranger Regiment medics taught the students evacuation methods in the jungle and highly restricted terrain to assist them in their role of medic. The students must demonstrate proficiency in evacuation methods using ropes including mechanical advantage, high-angle extraction, z-pulley, and one-rope bridge to transport casualties over water and uneven terrain. Medics then performed autologous blood transfusions and learned the importance of walking blood banks.



Soldiers attending the Jungle Medicine Course carry their simulated casualty through uneven terrain on 25 January 2023.

"In my 13 years in the Army, I can honestly say this is some of if not the best training I've seen," said SFC Bryan Essig, a medical platoon sergeant assigned to 3rd Squadron, 4th Cavalry Regiment, 3/25ID. "Soldiers that participated in this training are hands down more prepared for any type of combat situation."

After the first week, a 50-question test was administered for medics to prove retention and proficiency in jungle medicine. The second week of the Jungle Medicine Course consisted of training with perfused cadavers in a simulated combat environment. The cadavers were "re-animated" using a pulsatile pump and bovine blood to simulate hemorrhaging. The value of training with cadavers compared to other training aids (i.e., mannequins or other simulators) is the realism of sensory and tactile feedback from conducting medical interventions. In the field environment, students practiced placing advanced airways, needle decompression of a pneumothorax, chest tube placement, intubation, junctional tourniquet uses, and cricothyroidotomy. The use of cadaveric training measures provided medics with a unique experience only offered through the 25ID Jungle Medicine Course, ensuring U.S. Army Soldiers are trained well above the standard and ready to respond to any future conflict.

The training focused on the continuum of care from the point of injury to the medical treatment facility using helicopter landing zones and static Role I facilities, which consisted of primary healthcare such as specialized first aid, triage, and stabilization, and Role II facilities, where advanced medical care is continued away from combat operations. The dynamic training included the medics on the ground, flight medics conducting extractions and coordinating patient handoffs, and further coordination from the flight crew to combat medics and physicians at the Role II facility. Although the course is focused on combat medic education, it is also applicable for advanced training in any medical military occupational specialty (MOS). The current training support package was recently approved for an 18.5-hour course in coordination with the Combat Medic Sustainment Division at Fort Sam Houston, TX, to provide continuing education units for licensed medical providers and combat medics attending the course.

Jungle Medicine Training Scenario

The course's training scenario began with combat medics conducting a combat patrol. During the patrol, students came under enemy fire and noticed a casualty on the ground. The medics conducted care under fire and worked their way through tactical field care and initiated a 9-line medical evacuation (MEDEVAC) request. The team then prepared the casualty for transport on a sked litter and extricated the casualty out of the harsh jungle terrain using a high-angle extraction and a z-pulley rope system to the MEDEVAC hoist site. Once the MEDEVAC arrived, the flight crew hoisted the simulated casualty into the helicopter, performed en-route care, and transported the casualty to a Role II facility. The Brigade Support Medical Company set up a company command post to track medics

and relay MEDEVAC requests as well as casualty locations. The 8th Forward Resuscitative Surgical Detachment was co-located with Role II to provide repetitions for working patients into surgery as well. After being treated and stabilized by the students at the Role II facility, the casualty was transported to a Role III medical facility for division-level care provided by surgical and medical specialists.

"Our contract with each other in the brigade is to provide every Soldier with the most realistic training experience possible to prepare for combat," said COL Rob Shaw, commander of 3/25ID. "The Jungle Medicine Course does exactly that, and that is why we're committed to making it an annual event."

History Critical to Sustainment Readiness

History shows that quality healthcare in a jungle environment is crucial to conserving the fighting force and maximizing combat power.³ The jungle environment is incredibly challenging and can quickly deplete a fighting force's combat power. Maximizing combat power requires quality healthcare, which cannot be understated. While the United States is not currently at war, training is paramount for the development and skill maintenance of combat medics. For the 25ID to continue to be America's jungle warfare experts, combat medics must learn the jungle-specific medical skills provided by the Jungle Medicine Course to save lives. The first time a combat medic treats a casualty in the jungle should not be on the battlefield.

Notes

¹ Glenn Barnett, "The U.S. Army Medical Corps: Caring for the Casualties in World War II," *WWII History* (October 2008), accessed at https://warfarehistorynetwork.com/article/the-u-s-army-medical-corps-caring-for-the-casual-ties-in-world-war-ii/.

² LTC Matthew K. Marsh and CPT Ryan L. Hampton, "Army Medicine's Critical Role in Large-Scale Combat Operations," *Military Review* (July-August 2022), accessed at https://www.armyupress.army.mil/Portals/7/PDF-UA-docs/ Marsh-and-Hampton-UA.pdf.

³ Barnett, "The U.S. Army Medical Corps."



At the medical evacuation hoist site, Soldiers assigned to 3rd Squadron, 4th Cavalry Regiment wait with their simulated casualty during the Jungle Medicine Course on 25 January 2023.

LTC Brandon Grooms currently commands the 325th Brigade Support Battalion (BSB), 3rd Infantry Brigade Combat Team (IBCT), 25th Infantry Division (ID), Schofield Barracks, HI. He has field grade operational experience in the 25th Infantry Division serving as a support operations officer and battalion executive officer; he also served as the military assistant to the Army G4 in the Pentagon and completed joint time with the Defense Logistics Agency, Fort, Belvoir, VA. LTC Grooms graduated from the Army Command and General Staff College and Joint Combined Warfighting School in Norfolk, VA. He was named Distinguished Military Graduate from Hampton University and has a Bachelor of Science in Business Management. He also earned a Master of Science in management of technology from Murray State University.

Dr. (MAJ) Kaitlin Harper currently serves as the regimental surgeon for the 3rd U.S. Infantry Regiment (The Old Guard) at Fort Myer, VA. She previously served as an emergency physician with the 325th BSB, 3/25ID. She is a graduate of the Uniformed Services University of the Health Sciences Tropical Medicine Course, U.S. Army Medical Department Captain's Career Course, and Tactical Combat Casualty Care Course. Dr. Harper earned a Bachelor of Science in biomedical science from Auburn University, a Doctor of Medicine from Mercer University School of Medicine, and Emergency Medicine Residency, Board-Certified Emergency Medicine Physician from the Medical College of Georgia.

CPT Kyle Mogensen currently serves as the battalion physician assistant for the 325th BSB, 3/25ID. His previous assignments include serving as the battalion medical operations officer and medical platoon leader in 2nd Battalion, 505th Parachute Infantry Regiment, 82nd Airborne Division, Fort Bragg, NC. He is a graduate of the Small Unit Ranger Tactics program, Tactical Combat Medical Care Course, Interservice Physician Assistant Program, Air Assault School, and Airborne School. CPT Mogensen earned a Bachelor of Science in health sciences from Bloomsburg University as well as a Bachelor of Science and a Master of Science in physician assistant studies from the University of Nebraska Medical Center.

1SG Waylon K. Wren has served as a senior line medic, evacuation sergeant, treatment sergeant, platoon sergeant, brigade medical operations sergeant, observer-controller, Department of Health Education and Training NCOIC, Department of Family and Community Medicine NCOIC, and first sergeant. He has completed two deployments in support of Operation Iraqi Freedom and Operation Enduring Freedom. 1SG Wren has been assigned to the 4th Squadron, 4th Cavalry Regiment, 610th Brigade Support Battalion, and Irwin Army Community Hospital at Fort Riley, KS; 1st Battalion, 15th Field Artillery Regiment in the Republic of Korea; 4th Battalion, 5th Air Defense, 69th Air Defense Artillery Brigade at Fort Hood, TX; 1-345 Engineer Battalion (Training Support) at Camp Atterbury, IN; Carl R. Darnall Army Medical Center at Fort Hood; and 130th Engineer Brigade at Schofield Barracks, HI. He earned a bachelor's degree in health science from Purdue University (Global).