

Improving Casualty Evacuation for Our Next Decisive-Action Fight

by CPT David W. Draper

As the U.S. military transitions from counterinsurgency (COIN) operations, the U.S. Army is preparing for our next conflict using decisive-action (DA) training. The Army's National Training Center (NTC) – where brigade combat teams (BCTs) train against a thinking, near-peer oppositional force – is of course at the forefront of DA training, currently focusing on 10 training areas such as combined-arms breach, fires and counter-fires, air and ground information collection, DA in an urban environment, the commander-driven operations process and sustainment in DA.

These efforts are important aspects of DA training, but our Army and our nation as a whole has largely forgotten the overwhelming number of casualties produced in conventional warfare against a near-peer adversary. Based on observations from NTC, Army Medical Department (AMEDD) lessons-learned and doctrine, this article will illustrate a need for improving individual and collective casualty-evacuation (casevac) training as well as outlines recommendations to improve casevac operations that can and will save lives on the battlefield.

Trends from NTC

Simply put, U.S. Army casevac skills have atrophied. This is evident in NTC's casualty died-of-wounds (DoW) rates. The NTC average number of urgent and priority casualties – meaning patients requiring medical treatment in one or four hours respectively – is currently 863 with a 49-percent DoW rate. This equates to about 420 preventable Soldier deaths in a single BCT over a 14-day period.

Most, if not all, Army leaders will agree this impact on combat power is unacceptable and unsustainable to meet mission requirements. The observation begs the questions, “Why is the DoW rate so high?” and “what can be done to lower this rate?”

As will be discussed, casevac is the crux of the problem, but first we must analyze and accurately depict DoW lessons-learned in conventional warfare as well as casevac operations in NTC's DA training environment.

Lessons-learned, NTC observations

Some casualties will die in combat regardless of treatment given or care provided. This is a fact of war. The U.S. Army as a profession of arms must embrace this somber fact while still exhausting every effort to mitigate casualty mortality. Doing so prevents unnecessary loss of life and sustains combat power.

AMEDD continuously analyzes wartime patient mortality through research and studies in an attempt to improve combat-casualty care. However, these studies primarily focus on definitive medical treatment at a Role 1 aid station or higher echelons of care.

One study, on the other hand, took a different approach. Originally published in *Military Medicine* (1984), COL (Dr.) Ronald Bellamy – an Army thoracic surgeon who significantly contributed to the U.S. military's research in tactical combat-casualty care – observed that most combat deaths occur on the battlefield before evacuation to a medical treatment facility (MTF) occurs.¹ Furthermore, Bellamy found that 20 percent of all casualties are essentially killed in action and that DoW rates are a direct function of evacuation time. In simple terms, the greater the evacuation time, the higher the DoW rate.

Research like that of Bellamy's led the Army to emphasize the importance of tactical combat-casualty care (TCCC), which is critical for the Army to decrease casualty mortality without sacrificing a tactical advantage. TCCC, originally developed in the mid-1990s for Special Forces, was intended to avoid preventable death due to trauma and provide good medicine with good tactics.² The global war on terrorism led the U.S. military to universally adopt the principles of TCCC, which is now the foundation of our combat-medical and combat-lifesaver (CLS) training programs. Despite being adopted during the global war on terrorism and the associated COIN operating environment, TCCC is just as, if not more important, in a DA operating environment against a near-peer adversary.

There are three phases of TCCC: care under fire, tactical field care and tactical evacuation care. NTC emphasizes the importance of all three phases of TCCC, but units commonly struggle with two of them: care under fire and tactical field care. Of particular concern are casualty collection point (CCP) operations and the integration of ground casevac and medical-evacuation (medevac) platforms. Ground medevac is preferred when possible, but the ground medevac vehicles organic to a BCT are too few to manage the high casualty loads in DA. Consequently, we are finding that units are overwhelmed with high casualty loads and too much time is wasted getting casualties to the CCP.

To reiterate Bellamy, DoW rates are a function of evacuation time, and NTC's notional casualties are dying because they simply run out of time. More specifically, casualties are running out of time between the point of injury (PoI) and CCP.

What does doctrine say?

Army Technical Publication (ATP) 4-25.13, *Casualty Evacuation*,³ is the most logical doctrine starting point for this discussion. However, this doctrine primarily discusses the how-to aspects of casevac from the individual Soldier perspective. In other words, the Army's single casevac publication focuses on individual Soldier training and omits unit-level casevac operations. ATP 4-25.13 does not address critical unit casevac tasks such as how to establish a CCP or who is responsible for managing it.

As stated previously, most casualty fatalities occur before the patient arrives at a Role 1 MTF, and the same observation holds true at NTC. If ATP 4-25.13 does not tell us how to execute unit-level casevac operations, then what doctrine does?

Perhaps the best doctrinal reference for unit-level casevac operations is Field Manual (FM) 3-21.10, *The Infantry Rifle Company*. In this publication, the importance of casevac is emphasized in Chapter 11, "Sustainment Operations." The following is an excerpt under the first sergeant's responsibilities (Chapter 11, Paragraph 6): "In addition to his tactical responsibilities, the [first sergeant] is a key player in sustaining the company. ... He normally supervises the evacuation of casualties. ... He performs command and control over the company medic and oversees the evacuation plan from platoon to company CCP."⁴

FM 3-21.10 also describes the roles and responsibilities of the company's senior medic: "The senior company medic must oversee and provide guidance to platoon medics, triage the sick and wounded at the company CCP... and request and coordinate the evacuation of sick, injured or wounded personnel under the direction of the company [first sergeant]."

FM 3-21.10 Chapter 11, Paragraphs 76 through 85, provide general guidance on casevac operations and, most importantly, emphasizes important aspects of casevac such as rehearsals, care under fire, standing operating procedures (SOP), triage and integration of the battalion medical platoon.

What to do: techniques that work

There is no single recipe for success in casevac operations. Nonetheless, there are a few simple techniques units can exercise to drastically improve casevac operations and overall patient survivability.

First and foremost, the company/battery/troop first sergeant must supervise the unit casevac plan. Evacuation from PoI to CCP is strictly a company-level responsibility. To best employ an effective CCP using the principles of TCCC, first sergeants need one or more designated casevac vehicles with litters, litter straps and CLS equipment, as well as company medics and combat lifesavers staged at an established CCP.

When a vehicle or fighting position sustains casualties, those casualties must be quickly pushed or pulled to the CCP using dedicated aid and litter teams. This is where care under fire transitions to tactical field care. Once a casualty is brought to the CCP, the company medic conducts patient triage, begins patient assessment and determines evacuation precedence.

Soldiers, combat lifesavers and combat medics need to know their roles and responsibilities during all three phases of TCCC. To build shared understanding in casevac and medevac operations, Soldiers at all levels need to be enabled with the right information, and a casevac/medevac concept sketch is a great leader tool to accomplish this.

The use of a casevac/medevac concept sketch and/or smart card as part of a unit SOP can prove invaluable in enabling Soldiers down to the individual warfighter. The concept sketch does not need to be complicated; in fact, the simpler it is, the more effective it is. As long as the casevac/medevac concept sketch accurately depicts friendly units, CCP locations, aid-station locations and coordinating instructions like radio frequencies, call signs and Joint Capabilities Release (JCR) role names, the concept sketch serves its purpose.

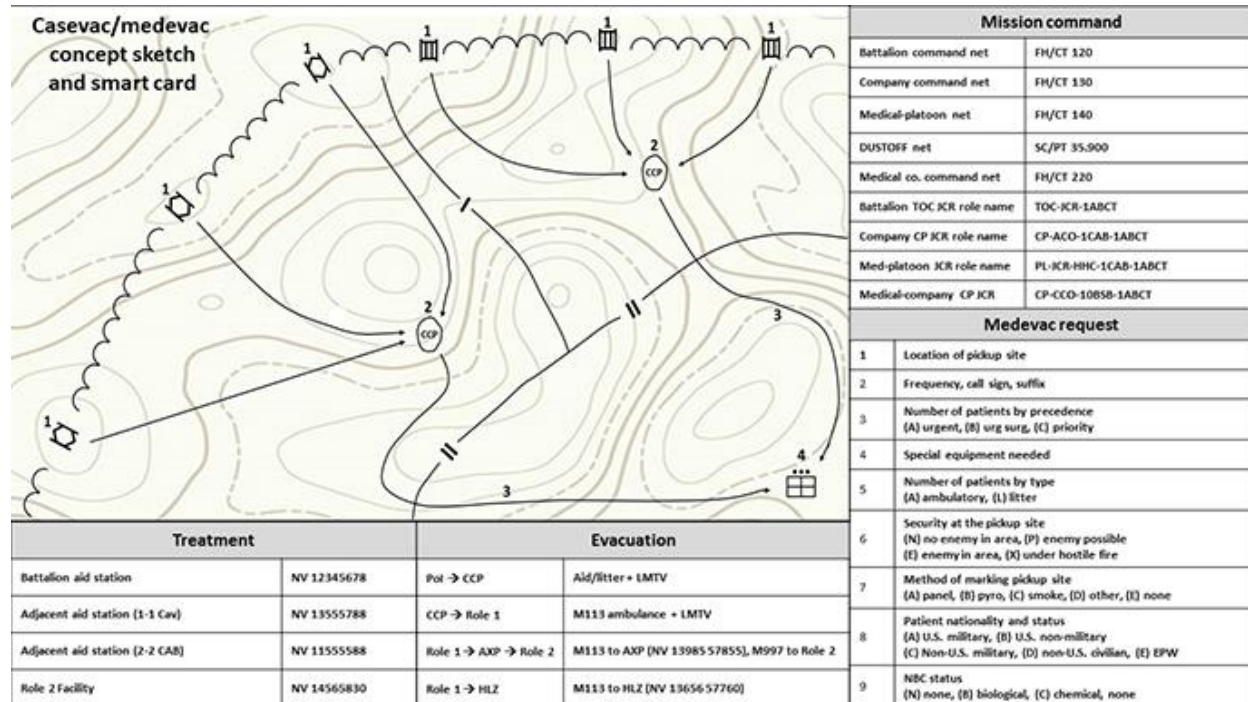


Figure 1. A sample casevac/medevac concept sketch and nine-line medevac-request smart card.

At battalion level, the medical-operations officer (MEDO) is the staff officer responsible for integrating and synchronizing air and ground casevac and medevac for his or her respective unit. This is best accomplished throughout the military decision-making process (MDMP) with bottom-up refinement from company-level leadership like the commander and first sergeant. At the conclusion of the MDMP's final step, orders production, company commanders and first sergeants could have a casevac and medevac concept sketch, produced by the battalion MEDO, for rehearsals and troop-leading procedures (TLPs).

Rehearsals such as the combined-arms rehearsal and sustainment rehearsal are also critically important to casevac and medevac operations. Recent observations at NTC have shown that units are often woefully unprepared to discuss the health-service-support (HSS) plan, which includes the air and ground casevac and medevac plan. A thorough HSS script, briefed by the battalion or brigade MEDO, is absolutely necessary for effective casevac and medevac. The MEDO must be prepared to discuss the five most important medical functional areas: medical mission command, treatment, evacuation, medical logistics and hospitalization. If a casevac and medevac concept sketch is produced during MDMP, the MEDO can use his/her sketch as a briefing tool during rehearsals, which will foster shared understanding and rehearsal effectiveness.

NTC prep and casevac SOPs

As mentioned, NTC has 10 training focus areas, one of which is sustainment in DA. Medevac and casevac fall under the sustainment warfighting function, but this is a small piece of sustainment operations. Given the myriad of sustainment requirements like food, water, fuel, ammunition and repair parts, casevac and medevac operations can easily be forgotten or omitted in the planning process. We can rationalize high DoW rates at NTC all we want, but high DoW rates at combat-training centers can easily equate to real deaths on a real battlefield in our country's future.

The adage “nothing happens until something moves” is particularly relevant in the casevac and medevac discussion. The bottom line is that time is the most critical factor for patient survivability, and casevac needs to be efficient to maximize time. Based on observations from NTC, the most significant time lost in the casevac process is between the Pol and CCP; therefore, this is where units can focus their training effort. To set conditions for successful casevac, brigades can use staff-assisted visits and an organization inspection program to assist battalions with their CLS program, casevac SOP, individual and collective medevac/casevac training and medical-equipment inventories.

The first, and arguably easiest condition to set, is individual casevac training as part of unit training plans. Individual casevac training can be concurrent with CLS training, which is highly encouraged because it maximizes training time with closely linked topics. However, the CLS program should not be perceived as the sole means of casevac and TCCC training. Units often decide to make 100 percent CLS training and certification the standard. Although the training is useful, compulsory CLS training for all Soldiers creates the false assumption that everyone is a qualified CLS, and leaders therefore fail to assign an individual CLS for each squad, team or crew. Rather than mandatory CLS training across an entire formation, units are encouraged to scrutinize whom they assign as CLS and enable those Soldiers with the necessary medical supplies and follow-on training to be effective.

The second most important condition to set is company and battalion casevac SOPs. An effective casevac SOP addresses the specifics of standard and nonstandard vehicle marking, aid and litter teams, CLS and combat medic personnel and equipment checklists (pre-combat checklist (PCC)/pre-combat (PCI)), reporting, medevac requests and communications using frequency modulation (FM), digital and visual methods. Once adopted, a casevac SOP can be routinely tested with all, or nearly all, platoon-level-and-above training, which leads to the final recommended condition for successful casevac operations – that condition being culture change.



Figure 2. Combat medics from Company C, 299th Brigade Support Battalion (BSB), 2nd Armored Brigade Combat Team (ABCT), 1st Infantry Division, escort notional patients to a helicopter landing zone (HLZ) at Camp Buehring, Kuwait, in November 2016. (Photo by CPT David Draper)

As an Army, we need to build casevac and medevac into our training culture. Every field training exercise (FTX), situational-training exercise, live-fire exercise, gunnery, weapons qualification, physical-training event, roadmarch, etc., is a casevac-training opportunity. Units are encouraged to incorporate self-aid, buddy aid, casualty carries and drags, medevac requests and the overall principles of TCCC into their training culture. Also, multi-echelon collective training such as FTXs are great opportunities to allow medical platoons to train ground casevac and medevac. This training stresses mounted land navigation, digital and FM communications, patient loading and unloading, in-route medical care, PCC/PCIs, use and requisition of Class VIII and overall TLPs that all medical platoons need the opportunity to exercise. While medical platoons practice their own critical task of ground medical evacuation, the opportunity for multi-echelon training can be used to validate company-level casevac SOPs.

A great example of multi-echelon medevac/casevac training is the integration of a medical platoon's evacuation squad to link up at a company CCP during weapon qualification. The company executing weapon qualification can exercise TCCC concurrent training (for example, care under fire and establishing a CCP) while the medical platoon exercises mounted land navigation, linking up at a CCP, patient exchange and in-route medical care. Training such as this improves TCCC proficiency at the individual warfighter level, increases training efficiency and fosters a unit culture that emphasizes the importance of medevac and casevac.



Figure 3. 2LT Richard Fischl, medical-platoon leader for 1-64 Armor, center, briefs CSM Lash Bailey, 1-64 Armor's command sergeant major, right, and SGT Katherin Dawson, senior company medic for Company D, 1-64 Armor, on the casevac plan during NTC Rotation 17-05 for 1st ABCT, 3rd Infantry Division, in April 2017. (Photo by CPT David Draper)

Conclusion

The anticipated casualties in DA against a near-peer adversary is an uncomfortable subject when considering the associated wounds, injuries and sickness. The overall number of casualties sustained in conventional warfare can quickly become overwhelming if we as an Army do not prepare ourselves. A 49-percent average DoW rate for urgent and priority patients, as currently observed at NTC, is not acceptable. The U.S. Army cannot tolerate nearly half its seriously injured casualties to die of their wounds.

By focusing training on casevac operations, units can significantly improve patient survivability. Most important to patient survivability is the rapid movement of casualties on the battlefield to higher echelons of medical care. Evacuation time is the leading contributing factor of DoW rates, so units must train themselves to maximize the use of time in the casevac and medevac process.

First-sergeant-led casevac operations at the company, battery and troop level; CLS training that incorporates individual casevac tasks; casevac SOPs; casevac/medevac rehearsals; and a unit culture that emphasizes multi-echelon casevac/medevac training between companies and their battalion medical platoon are the primary recommendations for units to improve overall evacuation operations. Units that aggressively execute these recommendations will undoubtedly be better prepared to conduct casevac operations and prevent unnecessary loss of life on the battlefield.

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Endnotes

¹ COL R.F. Bellamy, "The Causes of Death in Conventional Land Warfare: Implications for Combat Casualty Research," ***Military Medicine***, Vol. 149, 1984.

² K.B. Butler and L.H. Blackbourne, "Battlefield Trauma Care Then and Now: A Decade of Tactical Combat Casualty Care," ***Journal of Trauma and Acute Care Surgery***, Vol. 73, No. 6, Supplement 5, 2012.

³ ATP 4-25.13, ***Casualty Evacuation***, Headquarters Department of the Army, 2013.

⁴ FM 3-21.10, ***The Infantry Rifle Company***, Headquarters Department of the Army, 2006.

Acronym Quick-Scan

ABCT – armored brigade combat team

AMEDD – Army Medical Department

ATP – Army technical publication

AXP – ambulance exchange point

BCT – brigade combat team

BSB – brigade support battalion

CAB – combined-arms battalion

Casevac – casualty evacuation

CCP – casualty collection point

CLS – combat lifesaver

COIN – counterinsurgency

CP – command post

DA – decisive action

DoW – died of wounds

EPW – enemy prisoner of war

FM – field manual

FM – frequency modulation

FTX – field training exercise

HLZ – helicopter landing zone

HSS – health-service support

JCR – Joint Capabilities Release

LMTV – light medium tactical vehicle

Medevac – medical evacuation

MEDO – medical officer

MDMP – military decision-making progress

MTF – medical treatment facility

NBC – nuclear, biological, chemical

NTC – National Training Center

PCC – pre-combat checklist

PCI – pre-combat inspection

PoI – point of injury

SOP – standing operating procedures

TCCC – tactical combat-casualty care

TLP – troop-leading procedures

TOC – tactical-operations center