The Tactical Combat Casualty Care Casualty Card TCCC Guidelines – Proposed Change 1301

COL Russ S. Kotwal, USA; CAPT Frank K. Butler, USN (Ret); MSG Harold R. Montgomery, USA; CDR Tyson J. Brunstetter, USN; Capt George Y. Diaz, USAF; COL James W. Kirkpatrick, USA (Ret); Ms. Nancy L. Summers; COL Stacy A. Shackelford, USAF; COL John B. Holcomb, USA (Ret); COL Jeffrey A. Bailey, USAF

30 April 2013

ABSTRACT

Optimizing trauma care delivery is paramount to saving lives on the battlefield. During the past decade of conflict, trauma care performance improvement at combat support hospitals and forward surgical teams in Afghanistan and Iraq has increased through Joint Trauma System and DoD Trauma Registry data collection, analysis, and rapid evidence-based adjustments to clinical practice guidelines. Although casualties have benefitted greatly from a trauma system and registry that improves hospital care, still lacking is a comprehensive and integrated system for data collection and analysis to improve performance at the prehospital level of care. Tactical Combat Casualty Care (TCCC) based casualty cards, TCCC after action reports, and unit-based prehospital trauma registries need to be implemented globally and linked to the DoD Trauma Registry in a seamless manner that will optimize prehospital trauma care delivery.

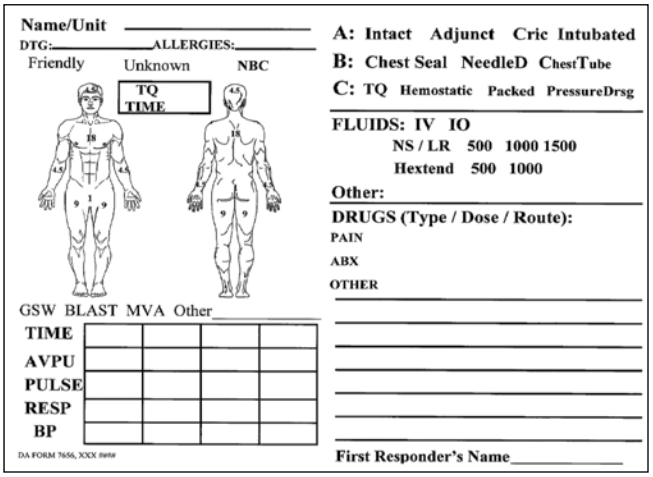
Background: In 2007, a Committee on Tactical Combat Casualty Care (CoTCCC) working group was convened to address the lack of prehospital care documentation in the conflicts in Iraq and Afghanistan. At that point in time, there were over 30,000 casualties from these conflicts, but less than 10% of these casualties' records had any documentation of the care that was provided before the casualty reached a medical treatment facility. Unit-level reporting formats were used in almost all cases of successful documentation. It was noted at the conference that, in many instances, the first responders providing care were not medical personnel. Documentation of care provided by non-medical first responders requires a format that they understand and can use effectively. (Butler 2010) The DD Form 1380 Field Medical Card that was in use by the DoD at the time was not believed by conference attendees to be optimally configured for documenting first responder care on the battlefield.

Three possible choices for battlefield trauma care documentation were reviewed at the conference. One was the DoD paper form 1380. The second was the Battlefield Medical Information System—Tactical (BMIS-T)—a PDA device. Neither format was felt to sufficiently meet the needs of the prehospital providers in the tactical environment.

The third option was the casualty card that had been developed by the 75th Ranger Regiment. This card was identified by the working group as an immediate, cost-effective, and easily-fielded interim solution. This card was developed largely by Ranger medics, has proven easy to use, and has been very well-accepted by the Rangers and by other Special Operations groups. Using this format, the Ranger Regiment had effectively documented the care provided to almost all of the approximately 450 battle injury and non-battle injury casualties they had sustained in Iraq and Afghanistan at the time of the conference. This card was recommended by conference attendees and endorsed by the CoTCCC as the preferred method for documenting TCCC on the battlefield. The 2007 version of the TCCC Casualty Card is shown in Figure 1. (Butler 2010)

The TCCC casualty card was endorsed by the Defense Health Board (Wilensky 2009) and adopted as the standard format for documenting prehospital care by the Department of the Army. (ALARACT 2009) The applicable Army Regulation (AR 40-66 Medical Record Administration and Healthcare Documentation) was amended to permit the TCCC casualty card (DA Form 7656) to become a part of the Health Record without a medical officer's signature. The DD 1380 Field Medical Card requires a medical officer's signature in order to become a part of the Health Record. The TCCC casualty

Figure 1 *Tactical Combat Casualty Care (TCCC) Card, original 2007 version.*



card was used successfully by the Ranger Regiment to create the Ranger Prehospital Trauma Registry, which is the single best unit-based trauma registry to emerge from the conflicts in Afghanistan and Iraq and which enabled the most comprehensive study on prehospital care rendered in a combat unit to emerge from these conflicts. (Kotwal 2011)

Only 14% of casualties have pre-hospital care documented upon arrival at a Role II/III facility. The lack of consistent prehospital documentation of care continues to be a requirement gap across the Services. (Caravalho 2011)

Discussion Points

There have been a number of updates to TCCC since the current version of the casualty care card was adopted in 2007. These new interventions include TXA, the CRoC, ketamine, and others.

Although the previous TCCC casualty card was designated as an approved Army form, the other services did not follow the lead of the Army on this issue. There is a need to have a form that is acceptable to and used by all services in the DoD. The Defense Medical Materiel Program Office has noted this need and initiated the effort to have a single "DD" form approved for use throughout the DoD.

The revised card maintains the simple format of the previous card, but incorporates a number of modifications that will allow better documentation of prehospital care. Upgrades included in the revised TCCC card include:

- The casualty Battle Roster Number (to link to the DoD Trauma Registry)
- Better definition of the mechanism of injury
- Improved documentation of tourniquet use
- Adds a section to record the use of junctional tourniquets
- Incorporates the use of prehospital plasma and blood
- Provides for documentation of hemoglobin oxygen saturation
- Adds a section for documentation on pain level
- Incorporates a section for supraglottic airway use
- Provides a space for the type of supraglottic airway
- Provides a space for type of chest seal
- Adds ketamine in the analgesic section
- Incorporates the use of tranexamic acid
- Provides a space for documentation of an eye shield
- Provides a space for documentation of combat pill pack usage
- Provides a space for documentation of hypothermia prevention equipment

The draft of the updated card was developed as a joint effort of the CoTCCC, the DMMPO, and the JTS. It was subsequently circulated to all members of the JTS and the CoTCCC and their suggestions for improvements were incorporated into the working draft.

A teleconference meeting of the CoTCCC with DMMPO and service participation was held on 28 March 2013 and the revised card was discussed. Following the meeting, several proposed modifications to the new TCCC Casualty Card were incorporated into the new card. Some teleconference participants also requested that a format for the card be considered that had all of the information that would be filled out by a non-medical combatant on one side of the card and the sections that would typically be filled out by a medic, corpsman, or PJ on the reverse side of the card. Such a format was subsequently developed.

On 4 April 2013, CoTCCC members were sent four versions of the casualty card:

Card 1: DD Form 1380 – the current DoD casualty card

Card 2: DA Form 7656 – the previous CoTCCC-endorsed casualty card

Card 3: DD Form xxxx – the new proposed card from DCDD using the non-combatant/combat medic information on different sides format, as described above

Card 4: DD Form xxxx – the new proposed card from DMMPO, JTS, and USSOCOM

A clear majority of the CoTCCC voting members selected Card 4 as the preferred version. This card was then forwarded to CoTCCC voting members for a "yes" or "no" vote, with the results as noted below.

Conclusions

The lack of adequate documentation of prehospital care rendered to U.S. casualties is a clear obstacle to ongoing TCCC and JTS efforts to improve that care. "You can't improve what you can't measure, and you can't measure without data." (Eastridge 2011) Since 87% of combat fatalities occur in the prehospital phase in the continuum of care, (Eastridge 2012) documenting and analyzing what occurs in this phase of care is crucial.

The difficulty of documenting prehospital care on the battlefield is well-recognized. Successful accomplishment of this task, however, can be accomplished through command attention and the use of tools such as the TCCC Casualty Card and unit-based prehospital trauma registries such as that developed by the 75th Ranger regiment. Process improvement in TCCC in the future will depend heavily on the DOD's ability to ensure that prehospital trauma care is adequately documented. The tools are there; we need to have our combat leadership ensure that they are used. (Kotwal 2013, Butler 2012)

The TCCC casualty card (DA Form 7656) needs to be updated and designated as a Department of Defense document. The CoTCCC endorses the use of the newly developed proposed DD Form as shown in Figure 2 (page 83) for this purpose.

PROPOSED CHANGE
CURRENT WORDING IN THE TCCC GUIDELINES

Tactical Field Care

19. Documentation of Care
Document clinical assessments, treatments rendered, and changes in the casualty's status on a TCCC Casualty Card. Forward this information with the casualty to the next level of care.

Tactical Evacuation Care

19. Documentation of Care
Document clinical assessments, treatments rendered, and changes in casualty's status on a TCCC Casualty Card. Forward this information with the casualty to the next level of care.

PROPOSED WORDING IN THE TCCC GUIDELINES

Tactical Field Care

19. Documentation of Care
Document clinical assessments, treatments rendered, and changes in the casualty's status on a TCCC Casualty Card (DD Form XXXX). Forward this information with the casualty to the next level of care.

Tactical Evacuation Care

19. Documentation of Care
Document clinical assessments, treatments rendered, and changes in casualty's status on a TCCC Casualty Card (DD Form XXXX). Forward this information with the casualty to the next level of care.

Level of evidence: N/A

Vote: The proposed change noted above passed by the required 2/3 or greater majority of the CoTCCC voting members.

Considerations for Further Research

Tracking prehospital care documentation is a top priority for the Joint Trauma System. The Deployed JTTS Director should ensure that TCCC Casualty Cards are captured into both the DoDTR and the Electronic Medical Record. Feedback to Regional Command Senior Medical Leaders regarding the percentage of casualties from their RC who arrive at the MTF with a TCCC Casualty Card should be provided monthly and should be tracked as a PI indicator. Future efforts to leverage technology and develop electronic methods of capturing prehospital medical care should be encouraged and funded.

Unit-based prehospital trauma registries were identified by the Defense Health Board as the #1 priority for battlefield trauma care RDT&E. At present, the documentation of in-theater trauma care is inconsistent, incomplete and often not transferred to either unit-based prehospital trauma registries (such as that pioneered by the 75th Ranger Regiment) or a trauma system registry, such as the DOD Trauma Registry. Improved methods to document prehospital care are essential. Further, command attention is vital to this aspect of combat trauma care and would help to ensure that our troops continue to receive the best possible battlefield trauma care. (Dickey 2012)

References

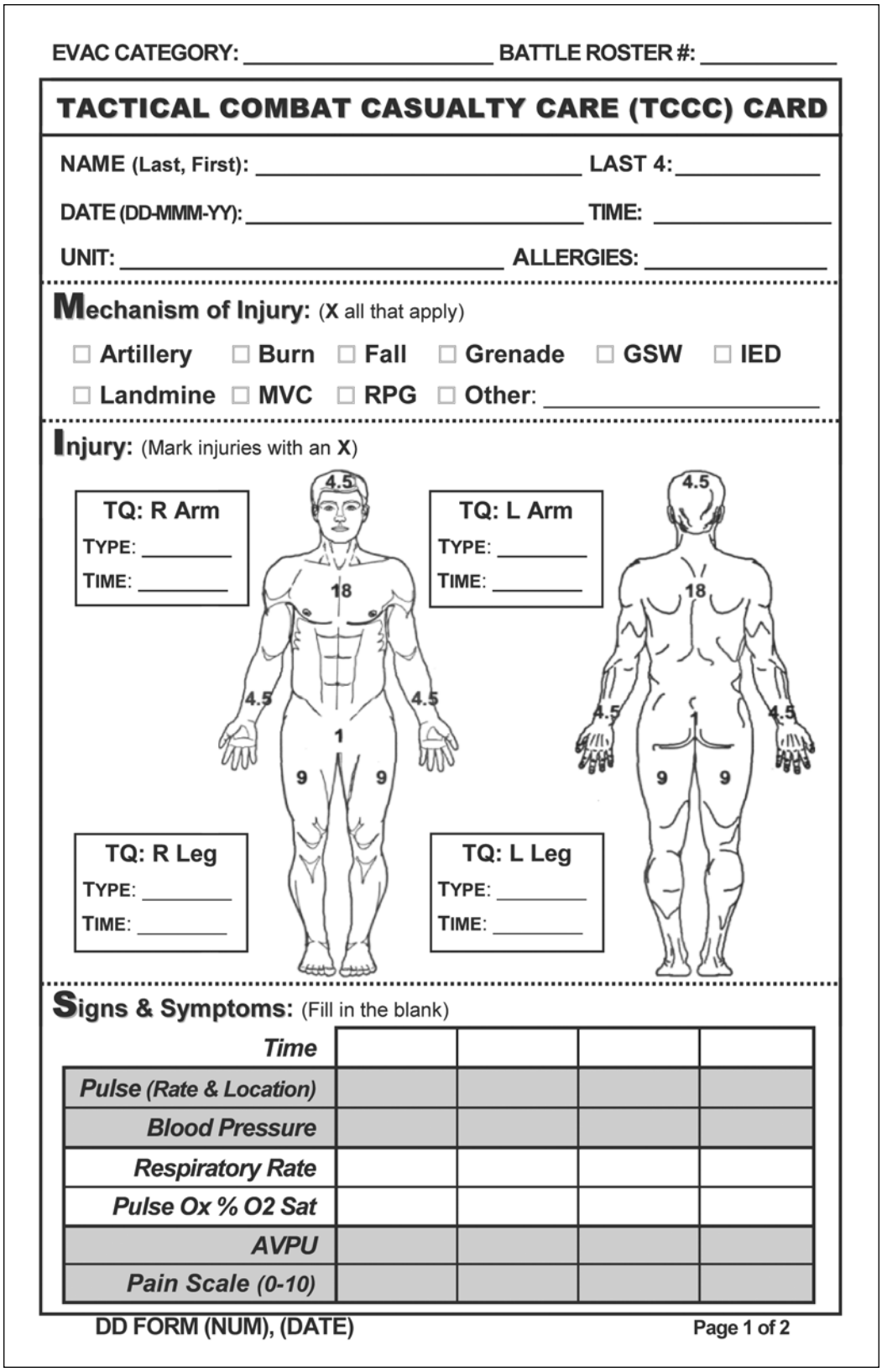
ALARACT 355/2009: TACTICAL COMBAT CASUALTY CARE (TCCC) CARD FOR POINT-OF-INJURY DOCUMENTATION; Office of the Surgeon General of the Army All Army Activities Message Date Time Group 242018Z DEC 09.

Army Regulation 40-66 Medical Record Administration and Healthcare Documentation, Rapid Action Revision (RAR) Issue Date: 4 January 2010.

Butler FK, Blackbourne LH: Battlefield Trauma Care Then and Now: A Decade of Tactical Combat Casualty Care. J Trauma Acute Care Surg 2012;73:S395–S402.

Butler FK, Giebner SD, McSwain N, Salomone J, Pons P, eds. Prehospital Trauma Life Support Manual. Seventh Edition—Military Version. November 2010.

Figure 2 *Tactical Combat Casualty Care (TCCC) Card, new 2013 version, page 1*



EVAC CATEGORY: _____ BATTLE ROSTER #: _____

TACTICAL COMBAT CASUALTY CARE (TCCC) CARD

NAME (Last, First): _____ LAST 4: _____

DATE (DD-MMM-YY): _____ TIME: _____

UNIT: _____ ALLERGIES: _____

Mechanism of Injury: (X all that apply)

☐ Artillery ☐ Burn ☐ Fall ☐ Grenade ☐ GSW ☐ IED

☐ Landmine ☐ MVC ☐ RPG ☐ Other: _____

Injury: (Mark injuries with an X)

TQ: R Arm
TYPE: _____
TIME: _____

TQ: L Arm
TYPE: _____
TIME: _____

TQ: R Leg
TYPE: _____
TIME: _____

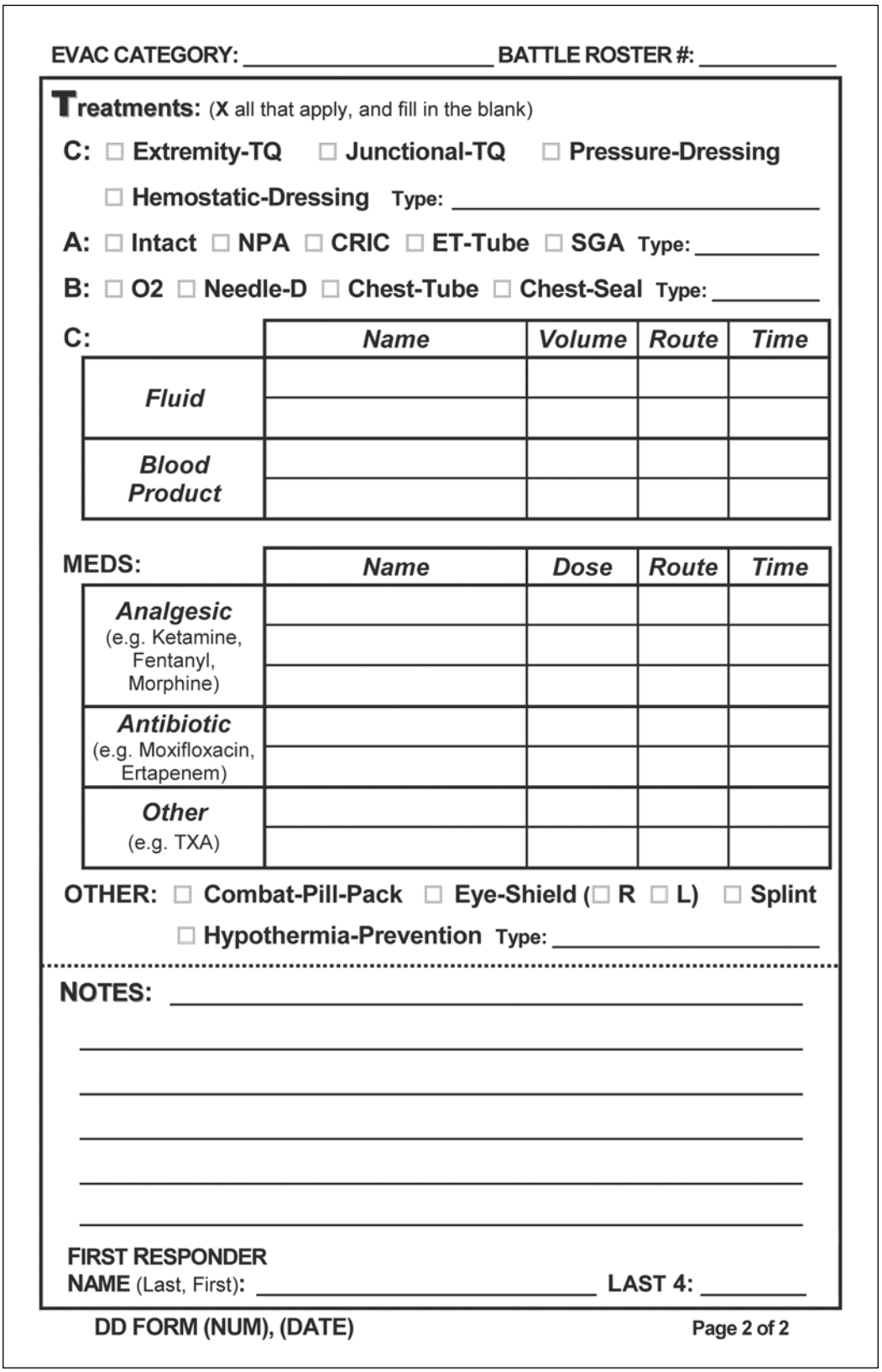
TQ: L Leg
TYPE: _____
TIME: _____

Signs & Symptoms: (Fill in the blank)

Time				
Pulse (Rate & Location)				
Blood Pressure				
Respiratory Rate				
Pulse Ox % O2 Sat				
AVPU				
Pain Scale (0-10)				

DD FORM (NUM), (DATE) Page 1 of 2

Figure 2 *Tactical Combat Casualty Care (TCCC) Card, new 2013 version, page 2*



EVAC CATEGORY: _____ BATTLE ROSTER #: _____

Treatments: (X all that apply, and fill in the blank)

C: ☐ Extremity-TQ ☐ Junctional-TQ ☐ Pressure-Dressing

☐ Hemostatic-Dressing Type: _____

A: ☐ Intact ☐ NPA ☐ CRIC ☐ ET-Tube ☐ SGA Type: _____

B: ☐ O2 ☐ Needle-D ☐ Chest-Tube ☐ Chest-Seal Type: _____

C:	Name	Volume	Route	Time
Fluid				
Blood Product				

MEDS:	Name	Dose	Route	Time
Analgesic (e.g. Ketamine, Fentanyl, Morphine)				
Antibiotic (e.g. Moxifloxacin, Ertapenem)				
Other (e.g. TXA)				

OTHER: ☐ Combat-Pill-Pack ☐ Eye-Shield (☐ R ☐ L) ☐ Splint

☐ Hypothermia-Prevention Type: _____

NOTES: _____

_____

_____

_____

_____

_____

FIRST RESPONDER

NAME (Last, First): _____ LAST 4: _____

DD FORM (NUM), (DATE) Page 2 of 2

Caravalho J. OTSG Dismounted Complex Blast Injury Task Force; Final Report. 18 June 2011:44–47.
Dickey NW. Defense Health Board Memo on Battlefield Medical Research, Development, Training, and Evaluation priorities; 20 Dec 2012.
Eastridge BJ, Mabry R, Seguin P, Cantrell J, Tops T, Uribe P, Mallett O, Zubko T, Oetjen-Gerdes L, Rasmussen T, Butler FK, Kotwal R, Holcomb J, Wade C, Champion H, Moores L, Blackbourne LH: Pre-hospital Death on the Battlefield: Implications for the Future of Combat Casualty Care. J Trauma Acute Care Surg 2012;73:S431–S437.
Eastridge BJ, Mabry R, Blackbourne LH, Butler FK: We Don't Know What We Don't Know: Prehospital Data in Combat Casualty Care AMEDD J 2011; April–June:11–14.
Kotwal RS, Butler FK, Edgar EP, Shackelford SA, Bennett DR, Bailey JA: Saving Lives on the Battlefield: A Joint Trauma System Review of Pre-Hospital Trauma Care in Combined Joint Operating Area—Afghanistan (CJOA-A). 30 January 2013.
Kotwal RS, Montgomery HR, Kotwal BM, Champion HR, Butler FK, Mabry RL, Cain JS, Blackbourne LB, Mechler KK, Holcomb JB. Eliminating preventable death on the battlefield. Arch Surg 2011; 146:1350–1358.
Wilensky G. Defense Health Board Memo on Tactical Combat Casualty Care and Minimizing Preventable Fatalities; 6 August 2009.

Disclaimer

The recommendation contained herein is the official position of the Department of Defense Joint Trauma System Committee on Tactical Combat Casualty Care. This recommendation is intended to be a guideline only and is not a substitute for clinical judgment.

This document was reviewed by the Director of the Joint Trauma System, the Public Affairs Office, and the Operational Security Office at the U.S. Army Institute of Surgical Research and approved for unlimited public release as of 30 April 2013.