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SUBJECT: Tactical Combat Casualty Care Training for Deploying Personnel 2011-02

EXECUTIVE SUMMARY

In a memorandum dated August 6, 2009, the Defense Health Board (DHB) recommended that all deploying combatants receive comprehensive training in Tactical Combat Casualty Care (TCCC). The Services have since issued several memoranda to increase pre-deployment TCCC training for Service members. However, inconsistent training requirements across the Services and additional evidence suggesting that TCCC training might decrease fatalities resulting from potentially survivable injuries have prompted the DHB to issue a recommendation calling for standardized and comprehensive TCCC training across the Services, as well as TCCC overview training for combat leaders. Of note is the importance of training deploying physicians in TCCC, so that they may properly supervise combat medical personnel providing battlefield trauma care.

INTRODUCTION

1. TCCC is a set of trauma care guidelines customized for use in the pre-hospital combat setting. TCCC is currently used in training for medics by all Services in the Department of Defense and by many U.S. coalition partners.

2. The Committee on Tactical Combat Casualty Care (CoTCCC), a work group of the DHB Trauma and Injury Subcommittee, performs a quarterly review of current evidence demonstrating the successes and shortcomings of the TCCC Guidelines, and considers proposed updates and revisions.

3. On August 6, 2009, the Defense Health Board issued a memorandum advising the Department to endorse TCCC training for all deploying Service members who may become combatants on the battlefield and all deploying medical department personnel, as well as TCCC overview training to officers and enlisted line leaders. The memorandum was distributed to the Chairman of the Joint Chiefs of Staff, as well as the Service Chiefs and Surgeons General of each of the Services, Joint Staff Surgeon, Combatant Commander Surgeons, Assistant Service Secretaries, and the Director of the Joint Staff. Actions taken to further implement TCCC within the Services are outlined below in the background section.

4. On February 8, 2011, the CoTCCC proposed recommending a renewed emphasis on the standardization of comprehensive TCCC training across the Services for deploying personnel.

i) These changes were presented to and unanimously approved by the DHB Trauma and Injury Subcommittee on February 9, 2011.
ii) These recommendations were presented on behalf of the subcommittee by Dr. Frank Butler, Chair of the CoTCCC and Dr. John Holcomb, former Chair of the Trauma and Injury Subcommittee, to the Board on March 8, 2011, which subsequently deliberated and approved the findings and recommendations by unanimous vote.

BACKGROUND

5. TCCC-specific training is critical for those who provide in-theater care for Service members. Battlefield trauma care differs from civilian trauma care due to a number of unique situational and environmental factors. These include the potential for hostile fire, different wounding epidemiology, limited equipment, need for tactical maneuvers, and potentially longer evacuation times.

   i) Due to these differences, TCCC Guidelines may differ in some respects from civilian-based trauma courses that are often used to train physicians.

   ii) Since TCCC Guidelines are updated frequently, ongoing TCCC training is essential in ensuring that care providers are aware of and prepared to provide the most recent evidence-based best practices in battlefield trauma care.

6. Since the DHB 2009 recommendation memorandum, the Services have shown an increased interest in incorporating TCCC principles into training programs for Service members, with all three Services and all Special Operations Forces now providing TCCC training in their medic schoolhouses. However, pre-deployment TCCC training is not standardized across the Services for all deploying Service members.

   a. On August 21, 2010, the Surgeon General of the Air Force issued a memorandum stipulating the inclusion of the most current TCCC Guidelines within all applicable Air Force training courses and programs, consistent with their level of knowledge and proficiency instruction related to battlefield medical care.

   b. In a memorandum dated August 9, 2010, the Surgeon General of the Navy mandated that deploying Navy physician assistants and Corpsmen receive three days of TCCC training, between six and eight months prior to deployment and within 180 days of deployment, respectively. However, TCCC training is neither required nor recommended for deploying physicians and nurses.

   c. On April 8, 2010, the Army Training and Doctrine Command (TRADOC) released a memorandum emphasizing the criticality of applying TCCC on the battlefield and indicating that Soldiers ranked E-5 and above are neither adequately trained in TCCC, nor familiar with first aid equipment included in their kits.

i) The memorandum identified a potential insufficiency regarding the allocation of only one combat lifesaver (CLS) per squad, due to the criticality of TCCC on the battlefield, and noted that the efficacy of this current requirement is presently being examined.

ii) It also outlined revisions to the CLS course and established a new requirement that Soldiers not designated as combat lifesavers be certified in "providing immediate lifesaving measures." This training is aligned with TCCC principles.

d. The Marine Corps has made numerous announcements stating TCCC Guideline updates should be the standard to which training efforts are focused and evaluation is based. The Marine Corps has also acknowledged the applicability of the guidelines to military personnel, combat lifesavers, and individual deploying combatants. The most recent issuance was released on January 10, 2011.

e. TRADOC leadership has expressed interest in incorporating TCCC training in professional development courses for junior leaders.

f. Navy SEALS and Army Rangers are the only known combat units incorporating TCCC into leadership training at present.

FINDINGS

7. U.S. military medical personnel who supervise combat medical staff, including physicians, nurses, and physician assistants, do not reliably receive routine training in TCCC. Their training is typically based on civilian trauma courses that may not reflect recent advances in battlefield trauma care.

8. TCCC training is inconsistently provided to combat leaders as well as all deploying combatants as part of their pre-deployment preparation for combat operations, thus rendering a lost opportunity for conveying latest developments and lessons learned in TCCC.

9. Feedback received from deployed Service members indicates that TCCC training is highly valued by those who receive it.

   a. A recent TRADOC survey of Soldiers in combat units found that TCCC is the second most valued element of their training, exceeded only by training in the use of their individual weapon.

   b. A Madigan Army Center team incorporated TCCC-based training in preparing 1,317 combat medics to deploy to either Iraq or Afghanistan. Of the 140 medics who deployed to Iraq within the same year, 99 percent indicated that the principles taught in the TCCC course helped with the management of injured casualties during their deployment.

10. A review of 419 battle injury casualties sustained by the U.S. Army 75th Ranger Regiment between October 2001 and March 2010 in Operation Iraqi Freedom (OIF) and Operation

Enduring Freedom (OEF), reports significantly lower rates for those who died of wounds (DOW) and who were killed in action (KIA) than that of the general U.S. military population serving during the same time period in these theaters.

a. The Regiment's KIA and DOW rates were 10.7 and 1.7 percent, respectively, compared to 16.4 percent and 5.8 percent for the larger U.S. military population.

b. Since 2000, all Rangers within the Regiment were trained in TCCC, including medics and non-medics. Out of 32 fatalities occurring over the study period, one fatality (three percent) was categorized as potentially preventable based on care issues in the hospital setting. Of those with potentially survivable injuries, no fatalities occurred during the pre-hospital phase of care. This study, when published, will document the lowest incidence of preventable deaths reported in the modern combat medical literature.

11. In contrast to the experience of the 75th Ranger Regiment, published reports of fatalities who had potentially survivable injuries among U.S. military fatalities during OEF and OIF range from 15 to 28 percent.

a. A panel of military medical experts reviewed 82 Special Operations Forces (SOF) fatalities in the Global War on Terrorism (GWOT), who died between October 2001 and November 2004. The study concluded that the majority of fatalities in this cohort of combat casualties were not preventable; however, 15 percent of these deaths were deemed potentially preventable.

b. Analysis of autopsy reports and medical files of nearly 1,000 U.S. combatant fatalities occurring in OIF and OEF over two separate time periods during the GWOT document a significant incidence of potentially preventable deaths.

i) Out of 486 fatalities that occurred between March 2003 and April 2004, 93 (19 percent) were categorized as potentially preventable. Out of 497 fatalities that occurred between June 2006 and December 2006, 139 (28 percent) were deemed potentially preventable.

ii) The study also notes a significant increase in explosive devices as the cause of injury and increasing injury severity, as well as the frequent occurrence of multiple casualty events. The most prevalent cause of death in both groups of potentially preventable fatalities was hemorrhage.

OBSERVATIONS

12. Although the studies referenced within the findings of this memorandum are descriptive and thereby contain inherent limitations, a number of observations are notable.

a. The 75th Army Ranger Regiment, which has been training every Ranger in TCCC principles since 2000, has not experienced a single fatality that was deemed potentially preventable by the study authors as a result of pre-hospital care issues.

b. The authors of the study examining SOF fatalities during GWOT suggest that consistent application of the current TCCC guidelines might have saved eight of the 12 fatalities (66 percent) with potentially survivable injuries.

c. The trends in injury causality and severity noted in the study of U.S. combatant fatalities occurring in OIF and OEF indicate that higher level care is needed on the battlefield.

d. TCCC Guidelines are periodically updated to reflect best practices and lessons learned from battlefield trauma care, with the intent to avoid preventable death and ensure the best outcome possible for the casualty. TCCC concept development must be combined with effective and comprehensive training in the new TCCC Guidelines as changes are implemented.

RECOMMENDATIONS

13. In recognizing the importance of providing quality in-theater pre-hospital trauma care aligned with TCCC Guidelines, the Board recommends the following:

a. That the Department ensure:

i. Standardized, comprehensive TCCC training is provided to all deploying combatants and medical department personnel across the Services.

ii. TCCC overview training is provided to combat leaders.

iii. TCCC training is provided to all physicians who are deploying or who are attached to combatant units.

b. That the Department endorse these TCCC training implementation recommendations to the Services.

c. That the Department monitors the implementation of said training across the Services to ensure that training occurs and is standardized.

14. The above recommendations were unanimously approved.

FOR THE DEFENSE HEALTH BOARD:

Nancy W. Dickey, M.D.
DHB President

Donald Jenkins, M.D.
Chair, Trauma and Injury Subcommittee

Frank K. Butler, M.D.
Chair, Committee on Tactical
Combat Casualty Care

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