ORIGINAL RESEARCH

Tactical Medical Skill Requirements for Law Enforcement Officers: A 10-Year Analysis of Line-of-Duty Deaths

Matthew D. Sztajnkrycer, MD, PhD, FACEP[1,2,3]

1. Associate Professor of Emergency Medicine, Department of Emergency Medicine, Mayo Clinic, Rochester, Minnesota USA
2. Medical Director, Rochester Police Department, Rochester, Minnesota USA
3. Medical Director, RPD-OCSO Emergency Response Unit, Rochester, Minnesota USA

Correspondence:
Matthew D. Sztajnkrycer, MD, PhD, FACEP
Department of Emergency Medicine
Mayo Clinic
200 First Street SW
E-mail: sztajnkrycer.mathew@mayo.edu

Portions of this manuscript were presented at the National Association of EMS Physicians Annual Meeting 2010, Phoenix, Arizona.

Keywords: assault; hemorrhage; law enforcement; prehospital; preventable death; Tactical Combat Casualty Care

Abbreviations:
CUF = Care Under Fire
FBI = Federal Bureau of Investigation
LEOKA = Law Enforcement Officers Killed and Assaulted
LODD = line-of-duty deaths
LSI = life-saving intervention
TCCC = Tactical Combat Casualty Care
TEC = Tactical Evacuation Care
TFC = Tactical Field Care
UCR = Uniform Crime Reporting

Received: 22 July 2009
Accepted: 10 December 2009
Revised: 14 December 2009

Web publication: 26 July 2010

Abstract

Introduction: In the absence of other data, military Tactical Combat Casualty Care (TCCC) precepts are increasingly being adapted to law enforcement needs. The purpose of this study is to better describe the nature of potentially preventable law enforcement Line-of-Duty Deaths (LODDs) occurring as a result of felonious assaults.

Methods: A retrospective analysis was performed of open source data available through the US Federal Bureau of Investigation (FBI) Uniform Crime Reporting (UCR) Law Enforcement Officers Killed and Assaulted (LEOKA) program for the years 1998–2007 inclusive.

Results: After applying exclusion criteria, 341 victim officers were included in the study. The most common cause of death was head trauma (n = 198), followed by chest trauma (n = 90). There were 123 victim officers that suffered potentially preventable deaths; the majority of these injuries involved the chest. Over the 10-year study period, only two officers (0.6%) died from isolated extremity hemorrhage.

Conclusions: The current emphasis of TCCC on control of exsanguinating extremity hemorrhage may not meet the needs of law enforcement personnel in an environment with expedited access to well-developed trauma systems. Further study is needed to better examine the causes of preventable deaths in law enforcement officers, as well as the most appropriate law enforcement tactical medical skill set and treatment priorities.

Sztajnkrycer MD: Tactical medical skill requirements for law enforcement officers: A 10-year analysis of line-of-duty deaths. *Prehosp Disaster Med* 2010;25(4):346–351.

Introduction

As a consequence of the 03–04 October 1993 Battle of Mogadishu, Somalia, in which 18 US special operations personnel were killed and another 73 were wounded, the US military re-evaluated its approach to early combat trauma management. Prior to the sustained 15-hour battle, military battlefield medical skills were based upon non-combat, civilian, prehospital care algorithms. From the Mogadishu after-action report, the current Tactical Combat Casualty Care (TCCC) doctrine was developed.[1–5] Tactical Combat Casualty Care recommendations violated accepted prehospital trauma care conventions by de-emphasizing airway management in favor of hemorrhage control during conditions of active threat and by supporting the use of tourniquets for life-threatening extremity hemorrhage. A growing body of evidence indicates that TCCC has saved, and continues to save, countless lives in the forward operating environment.[6–12]

Tactical Combat Casualty Care is a tactical and operational approach to combat casualty management, emphasizing the importance of sound tactics in preventing additional injuries. It divides medical care into three phases based upon the tactical threat level: Care Under Fire (CUF), Tactical Field Care (TFC), and Tactical Evacuation Care (TEC). These three phases of care loosely approximate to medical operations in the hot, warm, and cold zones,

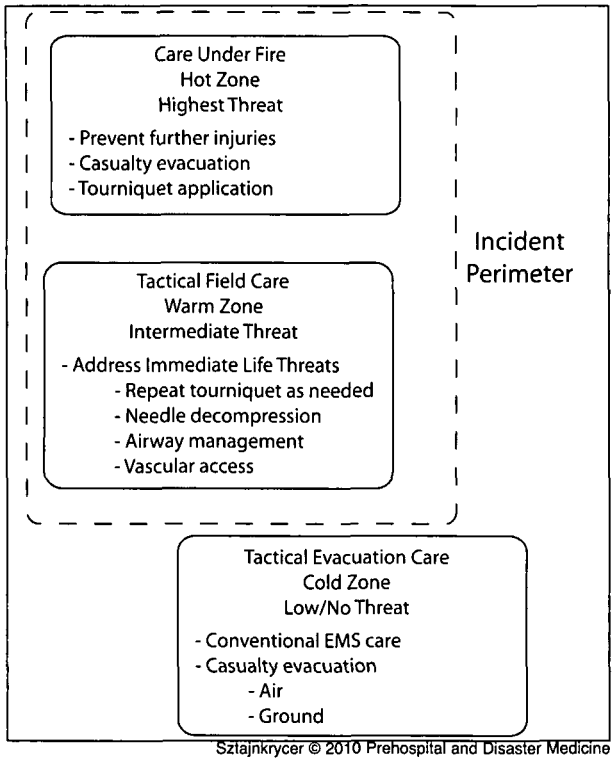

Figure 1—Tactical Combat Casualty Care phases of care and appropriate medical interventions.

respectively (Figure 1). During periods of high threat, such as effective hostile fire, attention is focused primarily upon threat elimination and casualty extraction, while specific medical care is de-emphasized and limited. As the threat level decreases, an increased emphasis is placed upon appropriate medical care.

The TCCC medical skill set emphasizes three life-saving interventions (LSI): tourniquet application for exsanguinating extremity hemorrhage, decompressive needle thoracostomy for tension pneumothorax, and nasopharyngeal airway placement for airway compromise. The former is the only medical procedure to be considered during the CUF phase of care, while the latter two are performed in the TFC phase or later. These LSIs are emphasized based upon pioneering work by Bellamy *et al*, examining causes of preventable combat death of soldiers in the Vietnam conflict.[13–15]

Law enforcement is an inherently dangerous profession. According to FBI Uniform Crime Report data, 57 officers were feloniously killed during the course of their duties during 2007, while 15,479 officers were injured through felonious assault.[16] An officer in the US was feloniously assaulted approximately every nine minutes during 2007. While not equivalent to combat operations, medical decision-making by law enforcement officers under conditions of active threat more closely reflect combat than conventional civilian EMS circumstances. As a consequence, increasing efforts are being made to translate military TCCC precepts to the civilian law enforcement setting.[17] In contrast to the evidence-based nature of TCCC, no studies have been performed evaluating the nature of injuries sustained by law enforcement personnel in the performance of their duties, and therefore, the appropriateness of this TCCC knowledge translation.

As part of the VALOR (Violence Against Law Officers Research) Project, the purpose of this preliminary study was to better describe the nature of law enforcement Line-of-Duty Deaths (LODDs) occurring specifically due to felonious assault, in order to subsequently determine the appropriateness of a TCCC skill set in developing law enforcement-specific medical training.

Methods

Study Format

A retrospective analysis was performed of open source data available through the US Federal Bureau of Investigation (FBI) for the years 1998–2007, inclusive. This study was reviewed by the Mayo Foundation Institutional Review Board and determined to be exempt.

Uniform Crime Reporting Law Enforcement Officers Killed and Assaulted

Under the Uniform Crime Reporting (UCR) program, the FBI obtains data from nearly 17,000 law enforcement agencies across the United States and its protectorates and territories. The FBI receives information on line-of-duty deaths (LODDs) via multiple sources, including: direct agency participation in the UCR program, FBI Field Division Reports, and data provided through the Bureau of Justice Assistance, the Public Safety Officers' Benefits Program, and non-profit organizations. Upon notification of a LODD, Law Enforcement Officers Killed and Assaulted (LEOKA) staff contact the fallen officer's employing agency, and request additional details about the incident. Data are compiled and presented in an annual LEOKA report; the majority of LODDs in the report also include a brief de-identified narrative summary of events, including nature of injury. Open-source LEOKA reports were accessed online at http://www.fbi.gov/ucr/ucr.htm#leoka. A verbatim example of a LEOKA summary is provided in Appendix 1.

Time of Death and Potentially Preventable Deaths

Time of death was identified as immediate (≤1 hour), early (>1 hour or ≤48 hours), late (>48 hours), or undeterminable, based upon trauma scoring conventions. In the absence of definitive medical or forensic data, potentially preventable deaths were defined as those potentially amenable to either: (1) a TCCC skill set life-saving intervention; or (2) definitive airway management. Head injuries identified as a cause of immediate death were classified as non-preventable deaths. Victim officers succumbing from immediate head trauma were classified as non-preventable deaths, even if they had other non-fatal injuries that may have been amenable to management using the TCCC skill set.

Results

Over the study period 1998–2007, summaries were available for 533 LODDs. These specifically excluded the events of 11 September 2001. After excluding officers acting in an official capacity yet off-duty, 488 LODD sum-

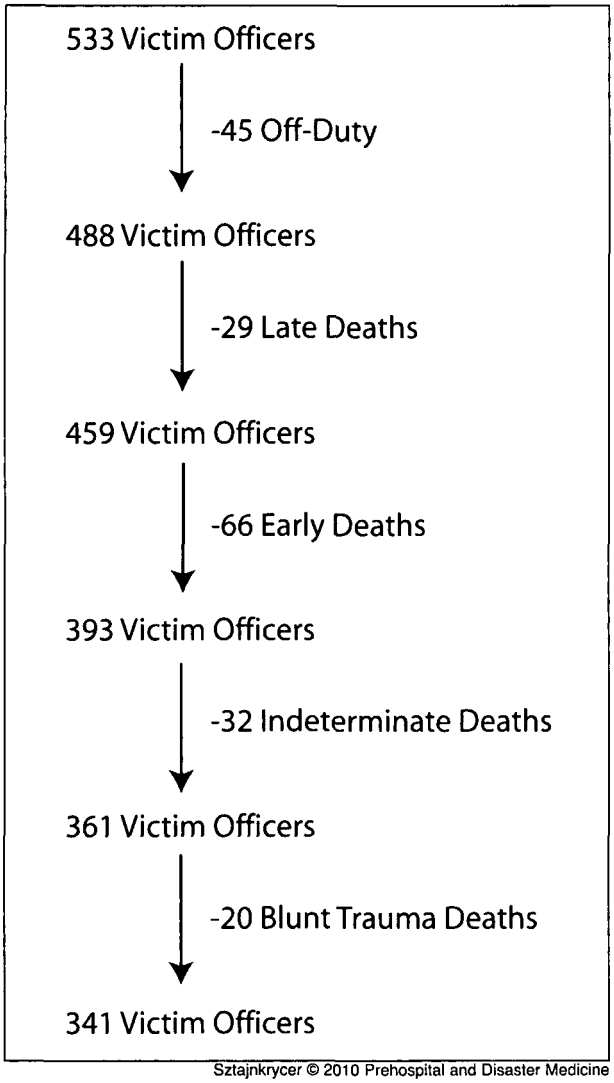

Figure 2—Case exclusion criteria for Law Enforcement Officers Killed and Assaulted line-of-duty deaths narratives.

maries remained (Figure 2). As the purpose of this study was to assess the appropriateness of translating TCCC to the law enforcement setting, emphasis was placed upon LODDs classified as immediate, and therefore, most likely to die of wounds in the prehospital arena without prompt LSIs. This time period most closely reflects the Care Under Fire and Tactical Field Care phases of TCCC care. Twenty-nine victim officers suffered late deaths, ranging from four days to nearly 30 years. Another 66 victim officers were classified as early deaths. In 32 summaries, time of death could not be determined. A total of 361 summaries remained, and were identified as immediate deaths.

Twenty of the 361 remaining victims died of multi-system injuries from blunt trauma, typically as the result of being deliberately struck by a motor vehicle. These patients were excluded due to the complex nature of the blunt trauma, the lack of simple interventions at the first responder level (the typical law enforcement medical skill level) amenable to preventing death, and the emphasis on penetrating trauma in combat medicine and the TCCC literature.

Three hundred, forty-one records remained for the final analysis. Ballistic vests were worn by 218 (63.9%) of the victim officers. Type of weapon used is listed in Figure 3; handguns were the most common (n = 233; 68.3%). Locations of injuries suffered by the victim officer and those deemed as fatal are shown in Figure 4. The most commonly identified causes of death were head trauma (n = 198) and chest trauma (n = 90). Despite wearing ballistic armor, 52 officers suffered fatal chest trauma.

Based upon the nature and location of the fatal injury, 123 (36.1%) victim officers had potentially preventable deaths. The majority of these injuries involved the chest. Of particular note, only two (0.6%) victim officers died from isolated extremity hemorrhage in the absence of any other injury. Both officers sustained isolated femoral artery lacerations in the setting of 7.62 x 39 mm assault rifle fire, and bled to death on scene. This occurred during a single incident in 1998. Since that time, no officer identified via UCR LEOKA has died of isolated extremity hemorrhage.

One hundred ninety-six (57.5%) victim officers died in the presence of another officer. Twenty-nine (8.5%) incidents resulted in the death of two or more officers. Seventy-nine (23.2%) officers with potentially preventable deaths died in the presence of other officers, who might have been able to render aid with an advanced medical skill set.

Discussion

After the combat losses sustained during the first Battle of Mogadishu, 03–04 October 1993, the US military revisited its approach to immediate combat casualty care. The end-result of this effort is TCCC.[1–6] Tactical Combat Casualty Care differs from conventional prehospital medical care in its emphasis that medical care during conditions of active threat is simply another tactical decision that must be analyzed in achieving the overall objective. Tactical Combat Casualty Care additionally defined a specific, evidence-based medical skill set and treatment priority algorithm. Treatment priorities differ depending upon the threat level, and therefore, the phase of care: Care Under Fire (CUF), Tactical Field Care (TFC), and Tactical Evacuation Care (TEC). This new approach to early battlefield trauma care is now the standard of medical care for all military medics, corpsmen, and combat lifesavers (CLS). The latter represent a unique group of non-medical personnel trained in specific advanced lifesaving skills in order to augment the capacity of limited medical personnel. It is estimated that as many as 25% of all lives saved in modern conflict are related to the actions of these personnel.

Although data exist to justify the use of TCCC in the combat setting, no equivalent body of research exists to determine an appropriate law enforcement medical skill set in analogous situations of injured officers in the setting of active, ongoing threat. As a consequence, administrators, instructors, and peace officers returning from military service have begun incorporating TCCC principles into law enforcement medical training. The purpose of the current paper is to assess whether this knowledge translation of military data into a law enforcement civilian context is appropriate.

Data from the Vietnam era indicated that 9% of all com-

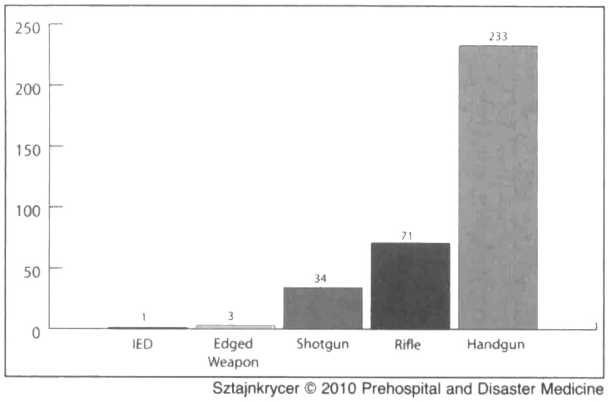

Figure 3—Weapon type used during immediately fatal felonious assaults on law enforcement (IED = improvised explosive device).
Note: More than one weapon type may be used during each incident.

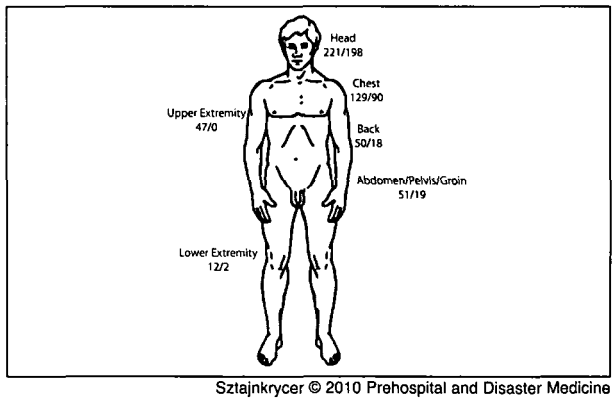

Figure 4—Anatomic location of injuries and fatal injuries sustained by officers. First number is reported location of injury while second reflects location of reported fatal injury. Note that more than one injury may occur in the same officer at the same location, or at different locations. (anatomic site of injury/fatalities due to injury site)

bat deaths were due to exsanguination from isolated extremity trauma. This equated to 60% of all preventable combat deaths. Based upon this finding, TCCC emphasized the management of extremity hemorrhage (circulation) over airway management in the tactical setting. Tactical Combat Casualty Care further stipulated that the only medical procedure to be performed under conditions of active threat (CUF phase) is tourniquet application for rapid control of exsanguinating extremity hemorrhage. A substantial body of research now supports the life-saving capability of modern tourniquets in the management of combat trauma.[11,12,18–23]

Based on this powerful evidence, law enforcement tactical medicine has begun to emphasize management of extremity trauma and tourniquet use as a medical priority. However, in contrast to the military setting, only 2 of 341 victim officers (0.6%) succumbed to isolated extremity hemorrhage over the past decade. During a single incident, both officers sustained penetrating trauma to the femoral artery from large caliber assault rifle fire and bled to death at the scene. As opposed to the 60% of preventable deaths noted in the military experience, fatal extremity hemorrhage accounted for only 1.6% of potentially preventable law enforcement deaths. No law enforcement death due to isolated extremity trauma has been reported since 1998.

This difference may reflect the capabilities of modern trauma and prehospital care systems in the US, capabilities that frequently do not exist in austere combat settings. Alternatively, it may reflect different wounding patterns seen in combat versus law enforcement. Finally, it may represent a survivor bias in the LEOKA dataset. As LEOKA narratives only describe fatal assaults, it is possible that law enforcement tourniquet use has saved lives, thereby excluding these officers from entry into LEOKA narratives. Based upon the available LEOKA data, the focus of TCCC on control of exsanguinating extremity hemorrhage, while still valid, important, and lifesaving, may be over-emphasized for the civilian law enforcement sector. It still must be noted, in accordance with TCCC precepts, that any other medical care provided in the hot zone poses substantial risk of further injury or death both to the patient and the provider, and ideally should be deferred until the warm zone.

Analysis of Vietnam data indicated that 5% of combat deaths were due to unrecognized and/or untreated tension pneumothoraces.[13–15] While a more recent study has suggested that the actual number is 3–4%, the original data suggested that tension pneumothorax accounted for 33% of preventable combat deaths.[24] As a consequence of this, TCCC includes in its skill set the rapid recognition and management of potential tension pneumothorax. This task is considered so important that although needle thoracostomy is a paramedic-level skill in the civilian setting, "limited" needle decompression (i.e., limited to the setting of penetrating chest trauma and worsening difficulty breathing) is taught to and used by combat lifesavers.

In the current study, 129 of the 341 victim officers (37.8%) sustained trauma to the chest cavity. In 90 of these cases, the injury was cited as the cause of death. It is probable that many of these deaths are not preventable, and involve injury to the heart or great vessels resulting in rapid exsanguination. However, it is possible that these officers succumbed from untreated tension pneumothorax. Unfortunately, due to the limited nature of the open source data set, further determination of the cause of death is impossible. However, data from the Vietnam era indicates that tension pneumothorax is responsible for 12.5% of combat deaths involving torso trauma. If these figures are accurate, it can be estimated that approximately 11 of the 90 officers died from a tension pneumothorax. More recent data by McPherson *et al* indicated that in 79 patients who died of isolated penetrating chest trauma, 55 patients had isolated pulmonary injury, and 26 died from tension pneumothorax.[24] Based on these figures, it is possible that as many as 29 officers may have died from tension pneumothorax.

Therefore, it would appear appropriate to emphasize the rapid diagnosis and management of potential tension pneumothorax in law enforcement specific medical training. While management of tension pneumothorax typically is a paramedic level skill, and beyond the usual scope of practice of law enforcement first responders, military experience

suggests that non-medical combat lifesavers are capable of effectively performing these procedures without adverse sequelae. A recent study of law enforcement tactical personnel demonstrated that officers were able to identify the indications for limited needle decompression and retain the procedural skill set for decompressive needle thoracostomy for a period of greater than six months.[25]

Only 1% of total deaths and 6% of preventable deaths in combat are due to airway compromise. As a consequence, airway management is prioritized after exsanguinating hemorrhage control, in distinct contrast to traditional life support priorities. In the current study, injury to the neck/throat area was deemed the fatal injury in 21 victim officers, accounting for 6.2% of all deaths. While these fatalities may have occurred from high spinal cord transection or vascular injury, some proportion may have occurred from airway compromise and have been preventable. Airway management in TCCC is limited to placement of a nasopharyngeal airway. It is unlikely that this basic skill set significantly will impact airway compromise secondary to penetrating trauma to the neck/throat area.

With the possible exception of tourniquet placement, TCCC skills typically are performed by an individual other than the wounded soldier. In combat, the majority of soldiers operate in groups of three or more. In law enforcement, many officers patrol individually, and rely upon back-up response for assistance. In the current study, 145 victim officers had no assistance present at the time of injury. Forty-four officers who might have benefited from lifesaving interventions had no assistance present at the time of their injury. This lack of available assistance will decrease the ability of TCCC or other medical skill sets to impact preventable law enforcement deaths.

This study suffers from all of the limitations inherent in retrospective chart reviews. It further represents only those cases reported to UCR LEOKA, and therefore, may miss some law enforcement deaths occurring as a consequence of felonious assault. The most important limitation of this study is that it is based upon deidentified open source material compiled by non-medical personnel, which was not developed specifically for medical research. In the absence of specific medical or forensic information, deaths only can be arbitrarily defined as potentially preventable. In future studies, medically specific information must be obtained to determine the true nature of injuries, and the ability to intervene with appropriate skill sets. Lastly, LEOKA narratives only describe fatal assaults, and do not provide information on "near misses". Such information would be invaluable in determining appropriate law enforcement tactical medical skill sets. Development of a "Near Miss" database should be considered a tactical medical education priority.

Conclusions

Tactical Combat Casualty Care is first and foremost a tactical and operational approach to minimizing and treating combat casualties. It emphasizes prevention of additional injuries and additional casualties as a means of accomplishing the mission. It must be stressed that the fundamental principles of TCCC remain sound and appropriate for law enforcement personnel facing medical decisions under conditions of active threat. As with any form of injury, prevention is key. In the current study, only 63.9% of victim officers were explicitly noted to be wearing ballistic vests at the time of their fatal injury. Multiple officers succumbed to injuries incurred from their own weapons, emphasizing the ongoing need for weapons retention skills.

Based upon combat data, TCCC has developed a skill set that emphasizes control of exsanguinating extremity hemorrhage above all other medical interventions. While appropriate to the austere combat setting, and certainly lifesaving in both theory and practice, this prioritization may not meet the needs of law enforcement personnel in an environment with expedited access to well-developed trauma systems. Further study is needed to better examine the causes of preventable death in law enforcement officers, as well as the most appropriate law enforcement tactical medical skill set and treatment priorities.

References

1. Butler FK Jr, Hagman J, Butler EG: Tactical combat casualty care in special operations. *Mil Med* 1996;161(1 Suppl):3–16.
2. Butler FK, Hagmann JH: Tactical management of urban warfare casualties in special operations. *Mil Med* 2000;165(1 Suppl 1):1–48.
3. Mabry RL, Holcomb JB, Baker AM, Cloonan CC, Uhorchak JM, Perkins DE, Canfield AJ, Hagmann JH: United States Army Rangers in Somalia: An analysis of combat casualties on an urban battlefield. *J Trauma* 2000;49(3):515–529.
4. Butler FK Jr: Tactical Medicine Training for SEAL Mission Commanders. *Mil Med* 2001;166(7):625–631.
5. Committee on Tactical Combat Casualty Care: Military Medicine. In: McSwain NE, Frame S, Salomone JP (eds), *Prehospital Trauma Life Support, Military Edition*. 5th ed. St. Louis: Mosby, 2005, pp 374–408.
6. Butler FK Jr, Holcomb JB, Giebner SD, McSwain NE, Baglan J: Tactical combat casualty care 2007: Evolving concepts and battlefield experience. *Mil Med* 2007;172(11 Suppl):1–19.
7. Chambers LW, Rhee P, Baker BC, Perciballi J, Cubano M, Compeggie M, Nace M, Bohman HR: Initial experience of US Marine Corps forward resuscitative surgical system during Operation Iraqi Freedom. *Arch Surg* 2005;140(1):26–32.
8. Navein J, Coupland R, Dunn R: The tourniquet controversy. *J Trauma* 2003;54(5 Suppl):s219–s220.
9. Brethauer SA, Chao A, Chambers LW, Green DJ, Brown C, Rhee P, Bohman HR: Invasion vs insurgency: US Navy/Marine Corps forward surgical care during Operation Iraqi Freedom. *Arch Surg* 2008;143(6):564–569.
10. Chambers LW, Green DJ, Gillingham BL, Sample K, Rhee P, Brown C, Brethauer S, Nelson T, Narine N, Baker B, Bohman HR: The experience of the US Marine Corps' Surgical Shock Trauma Platoon with 417 Operative Combat Casualties during a 12 month period of operation Iraqi Freedom. *J Trauma* 2006;60(6):1155–1164.
11. Kragh JF, Walters TJ, Baer DG, Fox CJ, Wade CE, Salinas J, Holcomb JB: Survival with emergency tourniquet use to stop bleeding in major limb trauma. *Ann Surg* 2009;249(1):1–7.
12. Kragh JF, Walters TJ, Baer DG, Fox CJ, Wade CE, Salinas J, Holcomb JB. Practical use of emergency tourniquets to stop bleeding in major limb trauma. *J Trauma* 2008;64(2 Suppl):s38–s50.
13. Bellamy RF: The causes of death in conventional land warfare: Implications for combat casualty care research. *Mil Med* 1984;149(2):55–62.
14. Bellamy RF: Death on the battlefield and the role of first aid. *Mil Med* 1987;152(12):634–635.
15. Champion HR, Bellamy RF, Roberts P, Leppaniemi A: A Profile of combat injury. *J Trauma* 2003;54(5 Suppl):s13–s19.
16. Uniform Crime Reporting Program. Law Enforcement Officers Killed and Assaulted 2007. Federal Bureau of Investigation. US Department of Justice. October 2008.
17. Sztajnkrycer MD, Callaway DW, Baez AA: Police officer response to the injured officer: A survey-based analysis of medical care decisions. *Prehosp Disaster Med* 2007;22(4):335–341.
18. Walters TJ, Mabry RL: Issues related to the use of tourniquets on the battlefield. *Mil Med* 2005;170(9):770–775.

19. Lakstein D, Blumenfeld A, Sokolov T, Lin G, Bssorai R, Lynn M, and Ben-Abraham R: Tourniquets for hemorrhage control on the battlefield: A 4-year accumulated experience. *J Trauma* 2003; 54(5 Suppl):s221–s225.
20. Cloonan CC: Treating traumatic bleeding in a combat setting. *Mil Med* 2004;169(12 Suppl):s8–s10.
21. Calkins MD: Evaluation of possible battlefield tourniquet systems for the far-forward setting. *Mil Med* 2000;165(5):379–384.
22. Wenke JC, Walters TJ, Greydanus DJ, Pusateri AE, Convertino VA: Physiological evaluation of the US Army one-handed tourniquet. *Mil Med* 2005;170(9):776–781.
23. Walters TJ, Wenke JC, Kauvar DS, McManus JG, Holcomb JB, Baer DG: Effectiveness of self-applied tourniquets in human volunteers. *Prehosp Emerg Care* 2005;9(4):416–422.
24. McPherson JJ, Feigin DS, Bellamy RF: Prevalence of tension Pneumothorax in fatally wounded combat casualties. *J Trauma* 2006;60(3):573–578.
25. Sztajnkrycer MD: Needle thoracostomy by non-medical law enforcement personnel: Preliminary data on knowledge retention. *Prehosp Disaster Med* 2008;23(6):553–557.

Appendis—Sample case criteria for Law Enforcement Officers Killed and Assaulted (LEOKA) line-of-duty deaths narratives.

"A 32-year-old detective with the Orange Police Department was killed on August 7 while investigating shots fired in a neighborhood. At 10:45 p.m., the detective radioed for backup and reported seeing a man with a gun standing in the middle of the road. When additional units arrived, the detective, who had 5 years of law enforcement experience, informed them that the man had fled into the backyard of a nearby home. The detective pursued the man into the yard ahead of the other officers, who subsequently heard gunshots and called for more units. Officers found the detective lying at the foot of the steps to the back door of the residence. He had been shot in the upper chest with a 12-gauge pump-action shotgun. Although the detective was wearing body armor, the shotgun blast entered through the armhole of the vest, fatally wounding him. Officers transported the detective to a local hospital where he was pronounced dead at 11:17 p.m. Approximately 12 hours after the incident, police received a tip that led them to the suspect in the shooting, a 19-year-old male. The suspect, a known drug dealer and user, was on parole at the time of the incident. He had a prior criminal record that included violent crimes and drug and weapons violations. The suspect also knew the victim officer through a prior law enforcement relationship. He was charged with Murder and weapons violations."

https://doi.org/10.1017/S1049023X00008323 Published online by Cambridge University Press

Editorial Comments: Tactical Medical Skill Requirements for Law Enforcement Officers: A 10-Year Analysis of Line-of-Duty Deaths

Ashley G. Anderson Jr., MD, MS, FACS, CPE

Clinical Professor, University of Wisconsin School of Medicine and Public Health, Department of Otolaryngology-Head and Neck Surgery, Madison, Wisconsin USA

Correspondence:
E-mail: aganders@facstaff.wisc.edu

Web publication: 26 July 2010

Dr. Sztajnkrycer has performed a thought-provoking analysis of line-of-duty deaths in law enforcement officers. As is the case in many good studies, it raises as many questions as answers. It appears most of the preventable fatal injuries involved chest trauma. Two questions come to mind: What can be done to increase the use of ballistic armor from only 65%, and are we using the right armor if such a high percentage of deaths involve penetrating injuries despite ballistic armor use? As sophistication of projectiles increases, we must not only use our technology, but also adapt to the increasing level of threat.

Head injury was the most frequent cause of death in the study group. Head protection, while routinely used by SWAT, is seldom used by other law enforcement officers. While it is impractical to wear helmets during routine police operations, are they available to all officers for high-risk situations?

Lastly, the article questions the appropriateness of translating experience in the military battle environment to civilian law enforcement operations. While Tactical Combat Casualty Care (TCCC) has been very valuable in the military setting, it would seem less effective in the civilian setting. On the other hand, the skills involved in TCCC are relatively easy to learn, and should be considered for incorporation into the basic medical training for law enforcement officers, provided they are placed into a context which appropriately emphasizes treatment priorities.

Appropriate blending of military and civilian treatment philosophy, and technology, will undoubtedly be beneficial. As the study notes, this needs to be studied in the civilian environment, as direct translation based upon military studies does not take into consideration the variation in injury profile for the two groups.