

Integrated education of all responders

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The Hartford Consensus issued a call to action that outlined specific activities that the public, law enforcement, emergency medical services (EMS)/fire/rescue, and definitive care need to enact to increase survival from active shooter and intentional mass casualty events. An acronym, THREAT, summarizes the recommendations: T is for threat suppression, H indicates hemorrhage control, RE denotes rapid extrication to safety, A is for assessment by medical providers, and T indicates transport to definitive care.

To answer this call to action, education of all responders in THREAT is needed. The specific educational needs of each responder group will be presented. However, it should be noted that a major tenet of The Hartford Consensus is that education should be multidisciplinary and emphasize an integrated response. All responders should consistently train and drill together.*

Public response

As was demonstrated at the Boston Marathon bombings, the uninjured or minimally injured members of the public will act as immediate responders. The public should be officially recognized as a resource in the response to mass casualty incidents and be included in planning and training for active shooter and intentional mass casualty incidents.* For details of training the public in bleeding control, please see the contribution by Richard Carmona, MD, MPH, FACS, the 17th Surgeon General of the U.S., in this compendium

*Jacobs LM, Wade DS, McSwain NE, et al. The Hartford Consensus: A call to action for THREAT, a medical disaster preparedness concept. *J Am Coll Surg*. 2014;218(3):467-475 .

†U.S. Fire Administration, FEMA. *Fire/Emergency Medical Services Department Operational Considerations and Guide for Active Shooter and Mass Casualty Incidents*. September 2013. Available at: https://www.usfa.fema.gov/downloads/pdf/publications/active_shooter_guide.pdf. Accessed June 30, 2015.

regarding unique strategies to educate the public in the principles of the Hartford Consensus.

Law enforcement response

The Hartford Consensus recognized that law enforcement and EMS/fire/rescue traditionally have had diverse responsibilities. Law enforcement has the responsibility for control of the scene, suppressing the perpetrator, and preserving evidence, whereas EMS/fire/rescue has the responsibility to preserve life and limb. To increase survival from active shooter and intentional mass casualty events, it is important that hemorrhage control be used as soon as possible and that first response law enforcement officers have the training necessary to be proficient at hemorrhage control. External hemorrhage control also must be regarded as a core responsibility of law enforcement. Officers must know how to use direct pressure, hemostatic dressings, and tourniquets to stop bleeding. In addition, law enforcement officers need to move the wounded as quickly as possible to areas where they can be assessed and treated by responding medical providers. EMS/fire/rescue must be integrated into the process as early as possible.*

EMS/fire/rescue response

The U.S. Fire Administration of the Federal Emergency Management Agency, U.S. Department of Homeland Security, has issued *Fire/Emergency Medical Services Department Operational Considerations and Guide for Active Shooter and Mass Casualty Incidents*.† This document is a resource for response planning and preparation for active shooter and mass casualty incidents. It calls for fire and EMS agencies to incorporate the THREAT principles into their standard operating procedures while developing protocols together and engaging in mutual education. A specific

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recommendation of the Hartford Consensus is that there be earlier integration of EMS/fire/rescue in the response. EMS personnel must know to act as quickly as possible to assess and treat the wounded. The use of casualty collection points and access corridors for EMS secured by police will compress the time between the first response by law enforcement and access to victims by EMS.* EMS personnel, including 911 dispatchers, need to know how to use direct pressure, hemostatic dressings, and tourniquets to control hemorrhage. In the event of fire, firefighter leadership must provide and identify safe zones as soon as it is feasible. Also recommended is that law enforcement and EMS/fire/rescue personnel know and use a common language as they respond. In addition, a unified command structure should be used to direct all responders.*

Definitive care

Because local facilities may not be trauma centers, it is critical that all hospitals be prepared to accept and treat severely injured patients. Hospital providers must be skilled at resuscitation and management of injuries, including surgical and radiologic interventions. To be prepared, all hospitals should routinely practice the enactment of disaster plans. Hospitals that are in proximity to places where large groups of people gather, such as shopping malls, schools, sports arenas, and movie theaters, should practice community scenarios to rehearse the rapid deployment of resources. Drills should test the emergency department and hospital-wide activation. This practice should include the management of unidentified patients, rapid internal hemorrhage control, mobilization of the blood bank, accessibility of computed

tomography scanning, and the availability of surgical care with expeditious operating room activation. Plans also should include methods for constant communication and coordination between the hospital and prehospital personnel.*

Conclusion

To support the principles of the Hartford Consensus, all responders in all disciplines and in all care environments should be properly trained in hemorrhage control. The following select educational programs are available to teach trauma care and hemorrhage control to medical and nonmedical individuals.

Advanced Trauma Life Support® (ATLS®)

Advanced Trauma Life Support (ATLS) was developed by the American College of Surgeons (ACS) Committee on Trauma (COT) to teach a systematic and concise method of caring for a trauma patient. The course emphasizes assessment, resuscitation, and stabilization of the patient. It also teaches how to determine if a patient should be transferred to a higher level of care and how to optimize that process if necessary. More information about the course, which is designed for physicians in the hospital environment, is available at www.facs.org/quality%20programs/trauma/atls.

Advanced Trauma Operative Management® (ATOM®)

Advanced Trauma Operative Management (ATOM) is designed to teach senior surgical residents, trauma fellows, military surgeons, and fully trained surgeons who infrequently operate on trauma victims the operative management of penetrating injuries to the chest and abdomen. Students are taught to identify injuries, develop a plan of care, and safely repair the injuries. ATOM is offered by the ACS

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Advanced Trauma Care for Nurses (ATCN)

Advanced Trauma Care for Nurses (ATCN) is designed for registered nurses to increase their ability to manage the multi-trauma patient. The course is taught concurrently with the ATLS, with nurses auditing the ATLS lectures and then participating in skill and testing stations offered by the ATCN. It is a program of the Society of Trauma Nurses. For more information, go to www.trauma-nurses.org/atcn.

Trauma Nursing Core Course (TNCC)

Trauma Nursing Core Course (TNCC) was developed by the Emergency Nurses Association to provide standardized nursing knowledge to improve the care of trauma patients, including the identification of life-threatening injuries, patient assessment, and interventions to promote better outcomes. The two-day course includes skill stations for nurses to practice a systematic approach to the trauma patient. For details, go to <https://ena.org/education/ENPC-TNCC/tncc/Pages/aboutcourse.aspx>.

Prehospital Trauma Life Support (PHTLS)

Prehospital Trauma Life Support (PHTLS) is the premier prehospital trauma education course; its mission “is to promote excellence in trauma patient management by all providers involved in the delivery of prehospital care through global education.” It was developed by the National Association of Emergency Medical Technicians (NAEMT) in collaboration with the ACS COT. It is a 16-hour course offered in two formats. One format is a traditional face-to-face course with lectures and skill stations; the other format is a hybrid course in which a portion is taken online and is followed by a one-day

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skill session. More information is available at www.naemt.org/education/PHTLS/whatisPHTLS.aspx.

Tactical Combat Casualty Care (TCCC)

The NAEMT Tactical Combat Casualty Care (TCCC) course is designed to teach strategies for the best trauma care on the battlefield. TCCC guidelines are endorsed by the ACS and the NAEMT through the PHTLS program. The NAEMT TCCC course is offered under the auspices of the PHTLS program. It is designed for combat EMS/military personnel. The course can be adapted for law enforcement special weapons and tactics and special response teams. TCCC guidelines, available at www.naemt.org/education/TCCC/TCCC_home.aspx, provide a foundation for the standardization of tactical emergency medical support protocols.[‡]

Tactical Emergency Casualty Care (TECC)

The Committee for Tactical Emergency Casualty Care (C-TECC) was formed in 2010 to adapt military TCCC principles to civilian high threat prehospital environments. The C-TECC does not offer courses but directs that its principles be used as written by educational partners. The C-TECC is a not-for-profit organization. Representatives from several federal agencies, including the Federal Emergency Management Agency, Department of Homeland Security Office of Health Affairs, and multiple federal law enforcement agencies, are involved with C-TECC. TECC is included in the Joint Counter Terrorism Workshop Series, which is a program to assist urban areas to prepare for mass casualty incidents. More information is available at: <http://c-tecc.org/images/content/C-TECC-Overview.pdf>.

Law Enforcement and First Response Tactical Casualty Care (LEFR-TCC)

The Law Enforcement and First Response Tactical Casualty Care (LEFR-TCC) course is offered through the NAEMT PHTLS program. It is designed for public safety first responders (nonmedical) to provide them with skills for hemorrhage control and the use of gauze packs, topical hemostatic agents, and tourniquets. The course also emphasizes opening an airway. It conforms with the TECC guidelines and the recommendations of the Hartford Consensus. More information about this one-day course is available at: www.naemt.org/education/LEFR-TCC/WhatIsLE-FRTCC.aspx.

Bleeding Control Course (B-Con)

The Bleeding Control Course (B-Con) is a course lasting two and a half hours to teach civilians with little or no medical training how to respond before EMS personnel arrive. It is offered through the NAEMT/PHTLS and is endorsed by the ACS COT. Examples of potential students include non-tactical law enforcement officers, firefighters, security personnel, and teachers. The course includes a lecture and skill stations for tourniquet application, wound packing, and jaw thrust. B-Con may be used along with a module about the Hartford Consensus to introduce the LEFR-TCC course to law enforcement personnel. More information is available at: www.naemt.org/education/B-Con/WhatIsB-Con.aspx. ♦

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[‡]McSwain NE, Pons PT, eds. *Prehospital Trauma Life Support*. 8th ed. Burlington, MA: Jones and Bartlett Learning; 2014.