JOINT COMMITTEE
TO CREATE A NATIONAL POLICY
TO ENHANCE SURVIVABILITY FROM INTENTIONAL
MASS CASUALTY AND ACTIVE SHOOTER EVENTS
HARTFORD CONSENSUS III

Implementation of Bleeding Control

Our nation’s threat from intentional mass casualty events remains elevated. Enhancing resilience of the public from all-hazards has been identified as a priority for domestic preparedness. Recent events have shown that, despite the lessons learned from more than 6,800 U.S. combat fatalities over the last 13 years, opportunities exist to improve the control of external hemorrhage in the civilian sector. These opportunities exist in the form of interventions that should be performed by bystanders known as immediate responders and professional first responders who are law enforcement officers, EMT’s, paramedics and firefighters (EMS/fire/rescue) at the scene of the incident.

The Joint Committee to Create a National Policy to Enhance Survivability from Intentional Mass Casualty and Active Shooter Events was founded by the American College of Surgeons. Two meetings of the Committee were held in 2013. This Committee made specific recommendations and issued a call to action. The deliberations of the Committee have become known as the Hartford Consensus. A third meeting was held on April 14, 2015. This Hartford Consensus III meeting focused on implementation strategies for effective hemorrhage control.

The overarching principle of the Hartford Consensus is that in active shooter and intentional mass casualty events, no one should die from uncontrolled bleeding. An acronym to summarize the necessary response is THREAT:

- Threat suppression
- Hemorrhage control
- Rapid Extrication to safety
- Assessment by medical providers and
- Transport to definitive care

The Hartford Consensus calls for a seamless, integrated response system that includes the public, law enforcement, EMS/fire/rescue and definitive care to employ the THREAT actions in a comprehensive and expeditious manner.
There are different levels of responders:

- Immediate Responders – those who are present at the scene and have personal equipment (including one’s hand) that is immediately available
- Professional First Responders – prehospital responders at the scene who have the appropriate equipment and training
- Trauma professionals – those professionals in hospitals with all the necessary equipment to provide definitive care

Immediate Responders

An emphasis of Hartford Consensus III is on empowering the public to provide care. During intentional mass casualty events, those present at the point of wounding have proven invaluable at responding to the initial hemorrhage control needs of the wounded. While traditionally described as “bystanders”, these immediate responders need not be passive observers and can provide effective lifesaving first-line treatment.

Immediate responders contribute to survival by performing critical external hemorrhage control immediately at the point of wounding and prior to the arrival of traditional first responders. Immediate responders contribute to what remains the critical step in eliminating preventable prehospital death: the control of external hemorrhage. The Hartford Consensus III recognizes the vital role that these immediate responders play in responding to mass casualty events. They make major contributions to improving survival from these incidents. However, the Hartford Consensus III does not advocate that members of the public enter areas of direct threat or imminent danger. Good Samaritan laws have been effective in empowering the public to become involved in the immediate response to a victim of cardiac arrest and choking by the initiation of cardiopulmonary resuscitation and the Heimlich maneuver respectively. This legal protection should be extended to include bleeding control.

Professional First Responders

Professional first responders include law enforcement and EMS/fire/rescue. As indicated by THREAT, law enforcement must suppress the source of wounding if the shooter is still active and then, because they are usually the initial first responders on the scene, must act to control external hemorrhage. Victims with life-threatening external bleeding must be treated immediately - at the point of wounding. All responders should be educated and have the necessary equipment to provide effective external hemorrhage control. Continued emphasis must be on the integration of the immediate responders, law enforcement, and EMS/fire/rescue to optimize rapid patient assessment, treatment, and transport to definitive care at the nearest appropriate hospital.
Building Educational Capabilities for All Responders

It is recognized that education in hemorrhage control can take many forms and should be offered using various modalities. Established education programs can be modified to include effective external hemorrhage control techniques for individuals, neighborhoods, communities, and groups of professional responders. The Bleeding Control (B-Con) course offered by the National Association of Emergency Medical Technicians is an example of a newly created program that is appropriate for individuals with little or no medical background. Other methods such as public service announcements, slogans, advertising, and entertainment media should be used to convey the message that bleeding control is a responsibility of the public and is within their capabilities. The public needs to be empowered to engage in life saving actions. The education should be in the context of preparing to deal with all situations involving all hazards including everyday events that may produce trauma and hemorrhage. For professional first responders, more advanced courses may offer additional options to control life-threatening external hemorrhage. All formal training should have specific objectives and train to competency. For professional responders, the training must be time and cost efficient. Ultimately; integrated exercises must be conducted that include all levels of responders. Specific educational content for immediate and professional responders includes:

For Immediate Responders

Actions for personal safety
Appropriate interactions with law enforcement, EMS/fire/rescue, and medical personnel
How to identify bleeding as being a threat to life
Use of hands to apply direct pressure
Proper use of safe and effective hemostatic dressings
Proper use of effective tourniquets
Use of improvised tourniquets - as a last resort

For Professional First Responders

Actions for personal safety
Coordination and integration of all responders
Communication among all responders
Appropriate interactions with immediate responders
Application of THREAT principles
Proper use of direct pressure
Proper use of safe and effective hemostatic dressings
Proper use of effective tourniquets

It is appropriate to utilize existing national organizations to widely disseminate the principals embodied in these education initiatives.
Building Equipment Capabilities for Hemorrhage Control

Immediate responders need to recognize that applying pressure to a bleeding vessel is the appropriate first action to take and that their hands are the first line of equipment. In most cases, control of external hemorrhage can be accomplished by applying direct pressure on the bleeding vessel.

Hemostatic dressings and tourniquets may be needed to effectively stop bleeding. For this reason the Hartford Consensus recommends that all police officers and any concerned citizens carry a hemostatic dressing, a tourniquet and gloves. This should also apply to all EMS/fire/rescue personnel. Ground and air medical transport vehicles should carry multiple dressings and tourniquets based upon local need. In addition, bleeding control bags should be placed and be accessible in public places as determined by a local needs assessment. Potential sites include malls, hospitals, schools, theaters, sports venues, transportation centers, and facilities with limited or delayed access. All hemostatic dressings and tourniquets must be clinically effective as documented by sound scientific data. The Tactical Combat Casualty Care program in the US Military has objective evidence to support the safety and efficacy of the various options for tourniquets and hemostatic dressings.

Contents of the bags should include:

- Pressure bandages
- Safe and effective hemostatic dressings
- Effective tourniquets
- Personal protective gloves

Placement of bleeding control bags should be:

- Next to all automatic external defibrillators (AEDs) as determined by local needs
- Immediately recognizable visually or via a web application
- Secure but accessible
- Able to be used within 3 minutes

Building Resources for the Development and Sustainability of Bleeding Control Programs

Procurement of equipment and training for bleeding control requires actions at the federal, state, and local levels as well as in the private sector. Tourniquet and hemostatic dressing procurement should reflect either the evidence and experience of the US Military gained during 13 years of war or scientific evidence that becomes available. Federal agencies should make elimination of preventable death from hemorrhage a priority issue that will influence funding at the state and local levels. At the state and local levels
government should interact with the private sector to assist in identifying risks at public venues and workplaces. Professional organizations should set standards that encourage education, equipment and training for immediate responders. Training in bleeding control should be offered as a measure of public safety. Municipalities can engage in fundraising activities at the local level to procure equipment. Volunteers can be a resource to provide the training.

Considerations for the development and sustainability of bleeding control programs:

- Using clear and concise messaging that bleeding control is an issue for public and private sectors;
- Engaging the private sector including businesses and trade associations;
- Appealing to philanthropic organizations;
- Applying for grant funding from government and private agencies;
- Involving professional, community, social, and faith-based organizations.

Conclusion

The most significant preventable cause of death in the prehospital environment is external hemorrhage. As demonstrated by the military, widespread bleeding control is critical to saving lives. Our country has a history of learning hard lessons from wartime experiences. The case for hemorrhage control is no different. While the Hartford Consensus directs that all responders have the education and necessary equipment for hemorrhage control, it strongly endorses civilian bystanders as immediate responders. Immediate responders, who are present at the point of wounding, represent a foundational element of our nation’s ability to respond to these events and a critical component of our ability to build national resilience. Immediate responders must be empowered to act, to intervene, and to assist. We are a country of people who respond to others in need. It can no longer be sufficient to “See Something, Say Something”; immediate responders must “See Something, DO Something”.

Participants of Hartford Consensus III included:

Lenworth M. Jacobs, MD, MPH, FACS
Chairman, Hartford Consensus
Vice President, Academic Affairs
Hartford Hospital
American College of Surgeons Board of Regents
Richard Carmona, MD, MPH, FACS
17th Surgeon General of the United States

Norman McSwain, MD, FACS
Medical Director
Prehospital Trauma Life Support
Tulane University

Frank Butler, MD, FAAO, FUHM
Chairman,
Committee on Tactical Combat Casualty Care
Department of Defense Joint Trauma Systems

Doug Elliot
President, The Hartford
Chair, Board of Directors
Hartford Hospital

Andrew L. Warshaw, MD, FACS
President, American College of Surgeons
Massachusetts General Hospital

Jonathan Woodson, MD, FACS
Assistant Secretary of Defense for Health Affairs
Department of Defense

Richard C. Hunt, MD, FACEP
Director for Medical Preparedness Policy
National Security Council Staff
The White House

Ernest Mitchell
Administrator, US Fire Administration
Federal Emergency Management Agency
Department of Homeland Security

Alexander Eastman, MD, MPH, FACS
Major Cities Police Chiefs Association
Chief of Trauma
Parkland Memorial Hospital
University of Texas Southwestern Medical Center
Kathryn Brinsfield, MD, MPH, FACEP
Assistant Secretary, Health Affairs
Chief Medical Officer
Department of Homeland Security

Col. Kevin O’Connor, DO, FAAFP
Physician to the Vice President
The White House

William Fabbri, MD, FACEP
Director, Emergency Medical Services
Federal Bureau of Investigation

Richard Serino
Distinguished Visiting Fellow
Harvard University, School of Public Health
8th Deputy Administrator
Federal Emergency Management Agency

Alasdair Conn, MD
Chief Emeritus, Emergency Medicine
Massachusetts General Hospital

Karyl Burns, PhD
Research Scientist
Hartford Hospital

Matthew Levy, DO, FACEP
Johns Hopkins University
Senior Medical Officer
Johns Hopkins Center for Law Enforcement Medicine

Leonard Weireter, MD, FACS
Vice Chair of Committee on Trauma
American College of Surgeons
Eastern Virginia Medical School

John Holcomb, MD, FACS
Chief, Division of Acute Care Surgery
University of Texas Health Science Center

Peter Rhee, MD, MPH, FACS
Department of Surgery
University of Arizona
Ronald Stewart, MD, FACS
Chair of the American College of Surgeons Committee on Trauma
The University of Texas Health Science Center at San Antonio

Robert Anderson, CDR, MSC USN
Military Assistant to the Assistant Secretary of Defense for Health Affairs
Department of Defense

**Other contributors included:**

Thomas M. Scalea, MD, FACS
Physician-in-Chief
R Adams Cowley Shock Trauma Center
University of Maryland School of Medicine

Donald Jenkins, MD, FACS
Medical Director, Trauma Center
Mayo Clinic

David R. King, MD, FACS
Trauma, Emergency Surgery and Surgical Critical Care
Department of Surgery
Massachusetts General Hospital