

## Preparing Our Nation to Respond to Active Shooter and Mass Casualty Events

In 2012, shortly after the horrific mass casualty shootings at the Aurora movie theater and Sandy Hook Elementary School, two prominent trauma surgeons – Drs. Norman McSwain, Jr. and Lenworth Jacobs – started examining records of the victims' injuries and causes of death.

“We wanted to know if some of the patients who died could have been saved,” says McSwain, a professor of surgery at Tulane University in New Orleans, La., and NAEMT's Prehospital Trauma Life Support (PHTLS) Program medical director. “We got information from Aurora and some of the other places where these shootings have occurred that shows several patients probably would have lived had they been properly managed. But what happened is they bled to death.”

Just as Columbine changed the way police respond to active shooters, the shootings in Aurora and Sandy Hook have led to a re-examination of the *medical* response to active shooter events.

In April 2013, McSwain and Jacobs, director of the trauma program at Hartford Hospital, along with FBI Chief Medical Officer Dr. David Wade and representatives from police and the fire service, came together in Hartford, Conn., to develop a plan for improving survivability from mass casualty shootings.

For many victims shot at close range, including the children and staff at Sandy Hook Elementary, the injuries were so severe that simple bleed control techniques would not have saved lives, McSwain says. But there are other incidents, including in Aurora, during which some victims might have lived if the bleeding had been stopped sooner.

The documents that came out of that April meeting and a second one held in July 2013 are known as the Hartford Consensus I and II. The documents outline a national policy for improving survival through collaborative responses to active shooters by EMS, law enforcement and the fire service; by training all law enforcement officers to apply tourniquets and other basic bleed control techniques; and by following a response strategy summarized by the acronym THREAT – threat suppression, hemorrhage control, rapid extrication to safety, assessment by medical providers, and transport to definitive care.

“All military personnel carry tourniquets on their uniforms, and police should do the same,” McSwain says. “They could potentially use this to save civilians, or to save themselves.”

Not only is it important for law enforcement to know how to control bleeding – civilians should too, says Dr. Peter Pons, an emergency physician in Denver, Colo., and



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associate medical director for NAEMT's PHTLS Program. Two years ago, Pons led the development of an eight-hour course, Law Enforcement and First Response Tactical Casualty Care (LEFR-TCC), offered by NAEMT. The course trains police and firefighters on hemorrhage control, basic airway control techniques, use of combat gauze and recognizing shock, and has officers practice the skills during active shooter scenarios.

But not all police departments were willing or able to put their officers through the full-day course. And there was one



group missing in the chain of survival for trauma victims at risk of bleeding to death – bystanders.

To make it possible for more police officers and civilians to learn basic bleed control techniques, Pons also led the development of a new, two-hour course on controlling bleeding.

“My hope is that bleed control is the CPR of the next decade, only we will cut the timeframe for getting the word out dramatically,” says Pons, who has piloted the two-hour course to Denver residents. “Hemorrhage control is quite frankly a concept that every citizen ought to know.”

### A Trail of Tragic Events

From university campuses to high schools, office buildings, military bases and even hospitals, mass shootings happen with alarming regularity in the United States. Law enforcement defines an active shooter as an individual actively engaged in killing or attempting to kill people in a confined, populated area using a firearm and sometimes other weapons.

Until Sandy Hook, the nation's most notorious mass shooting was Columbine. In 1999, over the course of 45 minutes, two students armed with rifles, shotguns and homemade bombs murdered 13 people and wounded 24 before killing themselves.

At the time, police response to active shooters was similar to response to hostage scenarios. The assumption was that the

shooter wanted something, like money or the release of political prisoners. So police would establish a perimeter, call for SWAT, and try to communicate or negotiate with the suspect.

But Columbine turned those assumptions on their head – and showed how ineffective a hostage-style response was in active shooter scenarios. It took nearly an hour after the first shots were fired for SWAT to enter the school, and four hours to evacuate all teachers and students. While police waited outside the perimeter, a science teacher bled to death inside the building – 3.5 hours after he'd been shot.

The tragedy led to a rapid change in police tactics. Instead of waiting for SWAT, the first patrol officers to arrive on scene are taught to enter immediately, follow the sound of gunshots and pursue one objective: neutralize the threat. The longer the shooter is on the loose, the more victims there will be.

### The Role of EMS and Fire

Yet even as police response underwent a transformation, it took far longer for EMS and fire to consider that their response – staging safely on the perimeter of such incidents, waiting for police to bring victims to them – might also need an overhaul.

Several months after the Virginia Tech shootings in 2007, the Arlington County Fire Department (Va.) participated in an active shooter drill with local law enforcement at a local university. The “shooter” had barricaded himself inside the library. Police followed the trail of the dead and the dying – all while Paramedics sat waiting in a parking lot 100 yards away.

Two hours after police had caught the “bad guy,” recalls E. Reed Smith, Arlington County Fire Department's operational medical director, most victims were still inside and EMS still hadn't started treating patients. That had to change, he thought.

Arlington County fire and police soon began to work together to develop a plan for responding to active shooter events that would give firefighters access to victims more quickly. As soon as police declared an area free of obvious threat, EMTs and Paramedics wearing bullet-resistant vests and helmets would enter the building with police. Calling it Tactical Emergency Casualty Care (TECC), Smith and his team adapted their plan from the U.S. military's strategy for taking care of the combat wounded, in which responders are trained to quickly assess the wounded and treat only those

with specific types of injuries – such as bleeding – in which death is both imminent and preventable.

As more and more communities fell victim to active shooters, many EMS, fire and local and federal law enforcement agencies began conducting joint, simulated drills to better prepare. This is an important step, says Bill Seifrath, chief of the medical first responder coordination branch in the Department of Homeland Security (DHS) Office of Health Affairs.

“It has been proven that when fire, law enforcement and EMS plan together, exercise together, train together, spend time together, and get to know each other so on the date the bomb goes off they’re not exchanging cards for the first time, it improves their ability to work together on scenes of IEDs (improvised explosive devices) and active shooters,” Seifrath says.

Many EMS and fire agencies have also adopted similar protocols to the one in Arlington County, training responders to enter “warm zones” with police to get to the injured sooner.

Though sending medical responders into warm zones with police is one way of improving response to active shooters, it’s just one strategy for accomplishing the primary life-saving goal – controlling bleeding as soon as possible, McSwain says. “The principal is you’ve got to stop the bleeding,” he says, noting that the Hartford Consensus focuses less on who controls the bleeding and more on getting it done. “One system may have police controlling the hemorrhaging and carrying patients out, another will have police bringing EMS into the warm zone to get to the patient. Each individual system works differently, based on the conditions, skills of their people, resources and local preference.”

### Enter the Federal Government

At about the same time as the meetings in Hartford, the White House was also becoming increasingly alarmed by the spate of mass casualty shootings in communities large and small.

President Obama’s plan to reduce gun violence, issued after the shootings at Sandy Hook Elementary, directed the

DHS to seek the input of first responders on best practices for improving preparation and response to mass casualty shootings. Also in the spring of 2013, more than 100 fire, EMS and law enforcement representatives were invited to attend a conference in Washington, D.C.

“There are many lessons to be learned from the wars in Afghanistan and Iraq,” Seifrath says. “What we’ve done with our partners in the Department of Defense (DoD) and across the federal government is to look at ways we can civilianize that data and information to save lives here in the United States.”

Among the initiatives: teaching more bystanders to control bleeding. As was learned in Boston, “people are going to respond,” Seifrath says. “It’s the altruistic nature of Americans.”

Other priorities include educating EMS and firefighters about ballistic vests and helmets to help agencies make informed decisions about whether they want to invest in protective equipment; and promoting the standardization of hemorrhage control techniques among responders nationwide. “We know of several major EMS jurisdictions where EMTs and Paramedics were prohibited from using tourniquets to control severe bleeding,” he says. To encourage

EMS agencies to update policies, the Office of Health Affairs, National Highway Traffic Safety Administration (NHTSA) and the American College of Surgeons Committee on Trauma worked together to create “An Evidence-based Prehospital Guideline for External Hemorrhage Control,” published in the April-June issue of *Prehospital Emergency Care*.

To Dr. Pons, greater attention must be paid to ensuring that EMS, fire, police and bystanders are prepared with the right information and skills to respond quickly and effectively to controlling bleeding from traumatic injuries – whether it’s an active shooter, or even a car accident or other mishap.

“The sad reality of life today is these sorts of incidents are going to happen,” Pons says. “It doesn’t matter if you’re in a small city or a big city, everyone has to know how to respond in these situations.”



*For information on PHTLS and LEFR-TCC programs, or the TECC guidelines and Hartford Consensus I & II, visit the NAEMT website ([www.naemt.org/education](http://www.naemt.org/education)) or contact [education@naemt.org](mailto:education@naemt.org).*