PERSPECTIVE

Tactical Medicine in Response to Acts of Terrorism

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In the immediate aftermath of the Boston Marathon bombings, our nation was witness in high definition to an extraordinary manhunt for the suspected perpetrators of this brazen act of domestic terrorism. For many, a transient sense of initial relief was attained with the apprehension of the individual then acknowledged only as "suspect No. 2." Reports of his capture, in near-real time, were visually highlighted in social and established media with the stark image of tactical medics from the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) attending to the gravely injured suspect at the exact site of his arrest (Figure 1). While this photograph evoked understandably mixed sentiments, those well versed in operational medicine immediately recognized both the individual heroism and the directness of action demonstrated by the two ATF tactical medics who rendered care that night.

Several historical facts have since borne out based on publicly available information. The injuries sustained by suspect No. 2 were life threatening and included a penetrating neck wound and airway compromise. The wide geographic lockdown and ongoing threats of gunfire and improvised explosives made the prospects of bystander aid nonexistent and conventional emergency medical services (EMS) care delayed at best. On reaching definitive in-hospital care, suspect No. 2 required intubation and ongoing critical care. His improvement to the point of hemodynamic stability and functional neurologic status attests to a successful continuum of care initiated by the on-scene resuscitative efforts.

The fact that two federal law enforcement agency tactical medics provided immediate life-saving interventions to suspect No. 2 was not a fortuitous happenstance. These individuals were highly trained, well equipped, and specifically prepared for this exact set of operational and logistical circumstances. Our academic emergency medicine center has focused for the past decade on enhancing tactical medicine for ATF and other federal, state, and local law enforcement agencies, and our approach has been to develop those intrinsic capabilities that allow the forward deployment of providers to the frontlines of law enforcement operations—those characterized by the highest physical threat and the lowest likelihood of ready response by conventional EMS systems.

Figure 1 *Tactical medics from the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) attend to suspect No. 2 in the Boston Marathon bombings at the site of his capture (source unknown).*

During the past two decades, the concept of tactical medicine has gained ever-increasing acceptance as a unique and specialized genre of prehospital medicine.[1–5] Distinct from conventional EMS systems, tactical medical programs are by comparison relatively costly to develop, administer, and sustain. Without widespread general understanding of these initiatives, there are often few financial resources to specifically support such programs. Rather, the advancement of tactical medicine initiatives is typically actualized by internal agency funding and individual personnel commitments to this collateral duty, prospects that are increasingly challenged by budgetary constraints and fiscal sequestration.

Compared with conventional EMS, tactical medicine programs supporting the primary law enforcement mission

are characterized by a lower incidence of patient encounters and unique operational mission logistics. Yet, by design, the clinical scenarios faced by tactical medics are likely to include the most critical sequelae of penetrating trauma. The most effective tactical medicine programs today enhance the capabilities of providers to respond with focused interventions that include supraglottic airways, needle thoracostomies, intraosseous vascular access, advanced tourniquets, and application of topical hemostatic agents, all to be deployed in the closest of proximities to ongoing active hostile threats. The need for continuous, effective, specialized medical training and dedicated medical oversight to sustain such remarkable proficiencies is paramount.

Our decade of work in this arena has emphasized the continuous, scenario-based, force-on-force training of law enforcement medics to specifically anticipate the exact tactical scenario, and its variants, played out in Boston. The actions of ATF tactical medics in this instance epitomize the outcomes expected of such a high level of training and preparedness.

The impressive provision of bystander, first responder, event medical, and EMS care to those immediately impacted by the two separate blasts in Boston must be acknowledged and has garnered our deepest admiration.[6,7] Rapid implementation of simple bleeding control measures and ad hoc tourniquet applications at this scene likely reflect the generalization of more advanced life-saving interventions long advocated within tactical medicine and proved in combat casualty care arenas.[8] Undoubtedly, these actions saved lives at the blast sites. The tactical circumstances surrounding suspect No. 2's capture presented a dramatically different problem set for incident commanders. Immediate provision of bystander, first responder, and formal EMS care at this enormously high-risk location was neither feasible nor justifiable.

The fundamental approach of tactical medicine has been historically intended to support small-unit tactics and to treat one or a few patients at single isolated incidents. As a primary force protection initiative, its mission is to render care to the tactical team and public safety personnel should the most dreaded contingencies arise and, by extension, rapidly address injuries sustained by targeted perpetrators and, in some cases, innocent bystanders.[1] The efficacy of such programs in events of larger scale such as complex disasters has also been described.[9]

In the case of the Boston bombings, however, the deepest impact of the actions of tactical medics in response to an act of terrorism may not as yet be fully appreciated. By sustaining in suspect No. 2 a viable patient, law enforcement tactical medics preserved for the National Joint Terrorism Task Force a vital chain of evidence critical to the remaining investigative process as well as the ongoing homeland security and antiterrorism missions. The totality and scope of information and other forensic evidence that may be gleaned from suspect No. 2 have yet to be fully determined and may never be fully disclosed.

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