THE BOSTON MARATHON BOMBING

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Boston has the most robust medical infra-structure per capita of any large city on the planet. This fact, by itself, allowed the city’s five Level I trauma centers to adequately respond to the terrorist bombings on Patriot’s Day in 2013. The patients were distributed across each of the trauma centers (and in some cases even non-trauma center hospitals) in such a way that no one institution was overwhelmed. This allowed the event to be viewed as a “symmetrical” mass casualty event. Additionally, the bombings occurred on a city holiday where, except for the marathon course, the streets were clear with without traffic. This allowed for the facilitation of rapid transport from the scene to the hospitals. The event occurred at approximately change-of-shift for many nursing resources. This allowed for staff to be effectively and instantaneously doubled without the delay of mobilizing additional personnel from home. These circumstances, among others, led to successful management of this incident.

Once casualties arrived at the hospitals, the emergency departments were cleared of all patients, with all centers exercising their surge capacity. Surgeons took a forward and aggressive posture with respect to tourniquet placement and rapid movement of casualties to the operating rooms. Once there, a damage control approach was liberally exercised in order to clear the rooms for additional patients and additional waves of patients. Procedures were abbreviated and patients moved to the ICU quickly.

After each patient’s index operation and stabilization, trauma teams met together to carefully go over all radiologic studies, need for additional studies, and careful secondary and tertiary surveys were performed. Importantly, dozens of missed injuries were identified that were missed during initial hemorrhage and contamination control.

The Boston Marathon bombings recently brought home a hard-learned lesson from the battlefield (1): the desperate need for civilian prehospital tourniquets. As a cause of death on the battlefield, extracavitary extremity hemorrhage has largely been eliminated as a major contributor to preventable exsanguination (2) due to the ubiquitous presence and early, aggressive use of prehospital tourniquets (3-6). There were 66 patients with extremity injuries and only 25 had a tourniquet placed, of which only one purpose-made tourniquets were identified (all others were improvised). It is clear that improvised tourniquets rarely work (3, 6) and that future efforts need to be directed at equipping prehospital providers with purpose-made tourniquets and providing the training and sustainment for their proper application.


