

**Conventional Weapons Terrorism:
Challenges for Preparedness and Response
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The primary threat of terrorism in the U.S. and worldwide is from makeshift bombs and explosives. Although chemical, biological, nuclear, or radiological weapon agents (“WMD”) pose a greater risk of devastation if deployed; their use in terrorist attacks worldwide is extremely rare. Meanwhile, terrorists explode one or more improvised bombs somewhere in the world nearly every day, targeting combatants and civilians alike.

From September 11th, 2001 until today, all significant terrorist attacks have used blast explosives. These attacks have brought a terrible toll. The high profile bombings in Bali, Madrid, London and Mumbai alone together claimed well over 500 lives.

The regularity of these attacks, and their toll in human lives, suggest that terror groups are far more adept at acquiring and using conventional explosives than they are of acquiring and handling chemical, biological or nuclear materials. It is prudent to prepare for attacks using weapons of mass destruction, but it is foolish to ignore the immediate and ongoing threat of conventional weapons terrorism.

Terrorists will continue to favor conventional explosives for several reasons. They are easy to buy or steal, do not require sophisticated equipment or operator training to employ, can be transported and concealed easily, and are capable of causing

widespread damage with a single attack. They can also turn individuals into human weapons, as the epidemic of suicide bombers in Israel and Iraq have demonstrated.

Severe head injury is the most frequent cause of death from explosives. Other common causes of mortality include penetrating neck and torso trauma from flying debris, traumatic amputations), and crushing injuries owing to collapse of buildings. Injuries found in victims initially surviving terrorist bombings usually include penetrating and blunt soft tissue trauma, closed and open fractures, flashburns, and occasional internal injuries. As with building collapses due to earthquakes, control of external hemorrhage must be the first priority for identification and intervention.

The primary sources of current explosives injury information are based on unique at-risk workers, international civilian war-injury research, or studies of military combatants whose physical condition and access to health care services contrasts sharply with that of the average U.S civilian worker. The typical military combatant is athletic, male, 18-35 years old, wears specialized personal protective equipment (PPE), and has immediate access to first aid and sophisticated trauma care. This profile seldom applies to civilians or civilian workers, who comprise the majority of casualties from terrorist or criminal bombings in the United States and worldwide.

Currently, assumed victim-needs following a bombing are based on the “military model” developed from incidents involving adult male combatants who were injured by highly efficient manufactured military ordnance, and who had access to consistent, immediate, and long-term care. Civilian victims’ demographics (age, gender, physical condition) are more diverse; their injuries are more often caused by inefficient and highly

unpredictable improvised explosive devices, and they do not necessarily have access to immediate or long-term medical assistance.

In light of these facts, there is a clear, urgent need to prepare the civilian sector for conventional weapons terrorism. But where should we begin? What can we learn from the experience of other countries, such as Israel, where terrorist bombings are more common and therefore, emergency care personnel have a wealth of “real world” experience? Despite the magnitude of the threat posed by conventional weapons terrorism, learning from the experience of other countries and from the experience of our own military doctors in combat has been relatively ignored. For example, there are presently dozens of Federally-funded Public Health Emergency Preparedness Centers in the U.S. with an almost exclusive focus on biological and other exotic weapons of mass destruction. To our knowledge, there is only one program that supports a comprehensive research or training program on explosives and terrorism (and that is funded by the private sector).

Even more egregious, in Israel hundreds of victims of blast terrorism have been saved by treatments which are still not approved for use in the U.S., let alone included in the Federal government’s Strategic National Stockpile (SNS). Why are medications, supplies and equipment that have proven highly effective in saving lives and preventing limb loss time and time again in real-life situations in Israel and among our troops in Iraq not available to civilians in the U.S.? The SNS was created to provide life-saving strategic drugs and arrange for them to be delivered within hours to where needed

("Getting the right stuff, to the right people, in time to achieve the right outcome"). Given that the primary threat of terrorism in the U.S. and worldwide is from makeshift bombs and explosives, this omission remains a mystery to us.