

Blast Injuries: What Clinicians Need to Know

In an instant, an explosion or blast can wreak havoc; producing numerous casualties with complex, technically challenging injuries not commonly seen after natural disasters such as floods or hurricanes.



In its landmark 2007 report, *The Future of Emergency Care in the United States Health System: Emergency Medical Services at the Crossroads*, the Institute of Medicine noted that “explosions are by far the most common cause of casualties associated with terrorism.” Terrorist bombings have the potential to affect public health systems and emergency medical response capability and inflict multi-system life threatening injuries on many persons simultaneously.

Health care providers and systems should understand that blast injuries present unique triage, diagnostic, and management challenges and must be prepared to assess and treat the injured. Specifically, health care providers and systems should be aware of the following:

- Communication with bombing victims may be difficult because of tinnitus and sudden temporary or permanent deafness.
- Expect an initial surge of noncritical patients at the closest available hospital within minutes of the event, which can overwhelm hospital and emergency care resources.
- Anticipate multiple simultaneous attacks resulting in very large numbers of casualties.
- Primary blast injury to the lung may require complex ventilatory and fluid management, and supportive care.
- Many injuries in a bombing are not life-threatening and are due to blunt force injury and penetrating trauma from flying debris or shrapnel.
- Wounds may be grossly contaminated. Consider aggressive wound care with delayed primary closure and assessment of tetanus status.
- Explosions in confined spaces, such as in subways or buses, or combined with structural collapse, are associated with greater morbidity and mortality.
- Triage and life saving procedures should not be delayed because of the possibility of radioactive contamination of the victim; the risk of exposure to caregivers is small.

The Centers for Disease Control and Prevention (CDC) is working to reduce injuries from terrorist bombings through the dissemination of blast injury fact sheets for health care providers as part of pre-event preparedness. CDC’s Terrorism Injuries Information, Dissemination and Exchange (TIIDE) project with leadership from the American Trauma Society, has developed sixteen blast injury fact sheets ranging in topics from crush injuries and burns to the treatment of children and older adults. Each fact sheet contains sections on clinical presentation, diagnostic evaluation, management, and disposition.

The fact sheets are available in multiple languages and formats. For more information or to download the fact sheets, visit CDC on the Web at: www.emergency.cdc.gov/BlastInjuries.