

<b>Abstract Title:</b>	<b>Civilian Burn Casualties Impacting Military Readiness: A Case Report</b>
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<b>Objective:</b>	<ol style="list-style-type: none"> <li>1) Provide a clinical model in caring for a specific population of patients with similar traumatic blast burn injuries.</li> <li>2) Document approach taken to delineate the assortment of care that can be compared to current practice.</li> <li>3) Assess the emergent needs of the polytraumatic burn patient with traumatic brain injury involvement in regards to resuscitation, wound burden, and hemodynamic stabilization.</li> </ol>
<b>Abstract:</b>	<p><b>Introduction/Background:</b> Numerous civilians and an even greater number of military members have experienced traumatic injuries as a result of explosive blasts. For many military members, injuries were largely attributed to improvised explosive devices (IED) and insurgent activities overseas. A large number of blast burn patients suffer polytraumas and have been subject to traumatic brain injury (TBI). This case report describes the course of treatment and recovery of a severely burned polytrauma civilian patient who very likely represents a large percentage of deployable military personnel casualties. Pre-deployment readiness is essential in the global care of burn traumas both abroad and at home. The patient’s overall outcome is reported from a multi-disciplinary burn team perspective.</p> <p><b>Methods/Designs:</b> This is a retrospective cross-sectional look at a polytrauma blast burn with information accumulated from the patient’s medical record that traces the acute hospitalization from admission to discharge, maintaining a focus on order of care and recovery progression in the polytrauma burn patient with TBI.</p> <p><b>Results/Findings:</b> The patient is a 20-year-old male who was involved in an explosive apartment fire. He suffered 68% total body surface area thermal burns to his face, torso, back, and extremities, inhalation injury, and a significant closed head injury with frontal subdural hematoma (SDH) and intraparenchymal hemorrhage (IPH) requiring a right-sided decompressive craniectomy, for which he was hospitalized a total of 196 days. During the extent of his acute hospitalization he sustained escharotomies, approximately 18 skin graft procedures, amputation of multiple extremity digits and upwards of 10 periorbital surgeries. This patient’s resuscitation was accomplished with a combination of Lactated</p>

Ringers (LR), Fresh Frozen Plasma (FFP) and Albumin. Notably, with 50% of the resuscitation volume composed of FFP. Great care was taken to closely regulate electrolytes and manage fluid volumes to reduce the complications associated with brain herniation. In an effort to optimize nutrition, enteral feedings were initiated within the first 3 days of admission to accommodate nutritional needs produced by the patient's hypermetabolic state and for promotion of wound healing.

The excision of wounds was deferred approximately 4 days into his stay allowing for stabilization of his head trauma and transition out of the resuscitation stage. Although, the current surgical approach to burn care is early excision of burn wounds; considerable attention was placed on ensuring the patient was outside of the window of significant severe TBI. Once cleared by the burn surgeons, aggressive physical and occupational therapy was instituted, and the patient successfully completed more than 400 hours of vital therapy. He was in good spirits and walking independently upon discharge home and continued outpatient rehabilitation with the support of family and friends for an extended time.

**Conclusions/Implications:** Early aggressive management of the TBI in conjunction with prudent surgical arrangement and wound management, valuable nutritional oversight, and vigorous physical therapy promoted the overall successful recovery of this patient with large surface area burns and TBI.