

WG 5 (Combat Casualty Care)

Combat Casualty Care Tactics

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Battlefield injuries pose a significant challenge. These injuries often involve extremely high energy, making them more likely to be life-threatening and necessitating aggressive treatment and rapid casualty evacuation. While they create significant clinical challenges, they also present tactical difficulties. Several of these challenges will be discussed.

First, to push advanced medical care as close as possible to the point of injury, the Israeli Defense Forces Medical Corps has assigned advanced life support providers at the company level. While this allows for rapid, advanced medical care, careful consideration is required regarding mobilization, tactical training, and the positioning of these providers.

Second, evacuation platforms vary considerably, ranging from fast, wheeled, non-protected vehicles to heavily tracked, well-protected armored personnel carriers capable of reaching casualties under fire. Assigning the appropriate platform based on the tactical scenario while ensuring high-quality medical care end route presents another significant challenge. Third, decisions regarding the use of static facilities—such as a Role 1 battalion aid station or a Role 2 facility, including a forward surgical team—demand careful consideration.

Fourth, accurate casualty assessment and the allocation of appropriate resources, as well as evaluating the risk to both ground and aerial casualty evacuation teams, are critical decision points for medical and tactical commanders. These decisions often require data that may not always be available. Finally, the use of whole blood as a key component in combat casualty care requires a carefully maintained and effective cooling chain, which can also create tactical dilemmas.

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Traumatic Brain Injuries in the Swords of Iron War: Epidemiology, Management, and Implications for Battlefield Care

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Background and Purpose:

Traumatic brain injury (TBI) is the hallmark injury of modern warfare and a leading cause of morbidity and mortality among military personnel. Understanding evolving combat trends and their impact on injury severity is essential for informing prevention and management strategies. This study examines the epidemiology, injury characteristics, and treatment of hospitalized IDF soldiers with head injuries during the Swords of Iron (SOI) conflict.

Methods:

This registry-based study analyzed data from the IDF Trauma Registry and the Israel National Trauma Registry. The cohort included all military personnel hospitalized with head injuries (Abbreviated Injury Scale [AIS] ≥ 1) during the SOI conflict (October 2023–January 2024). The study examined injury patterns, severity (Injury Severity Score [ISS]), prehospital interventions, and short-term outcomes.

Results:

Among 385 hospitalized soldiers (median age: 22 years, 99% male), 72% suffered blast injuries, 9% had gunshot wounds, and 81% experienced penetrating trauma. A total of 116 (30%) had an ISS of 25 or higher, and 70 (18%) had an ISS between 16 and 24. In the prehospital setting, 17% received whole blood or freeze-dried plasma, and 23% were administered TXA. Upon hospital admission, 77% had a Glasgow Coma Scale (GCS) score of 15, while 18% had a GCS of 8 or less. Severe head injuries (AIS ≥ 3) were documented in 216 (56%) patients, of whom 112 (52%) had isolated head trauma. Thoracic (28%) and facial (23%) injuries represented the most common severe associated injuries. Profound shock was noted in 25% of these cases. Among those with severe head injuries, 53% were discharged home, 37% to rehabilitation, and all in-hospital mortality cases ($n=27$, 13%) occurred within this group.

Conclusions and Discussion:

The predominance of blast-related head injuries aligns well with epidemiological trends observed in recent U.S. military conflicts. While a considerable proportion of patients received whole blood, FDP, or TXA in the prehospital setting, these interventions were primarily administered to those with severe systemic and head injuries, limiting our ability to assess their potential link to patient outcomes. Further research is required to determine the effectiveness of early blood product administration and the role of advanced battlefield protective gear and evolving combat tactics in mitigating TBI.