

WG 5 (Combat Casualty Care)

Combat Casualty Care in the Swords of Iron War

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Background and purpose:

On October 7, 2023, the terrorist organization Hamas launched a deadly attack on Israel. These attacks marked the start of the Swords of Iron War (SOI), which included a southern ground maneuver beginning on October 27, 2023, and a northern maneuver on October 1, 2024. The southern front involved heavy vehicle activity (tanks and APCs), while the northern front was primarily infantry-based. This study reports injury patterns and medical interventions of both fronts.

Methods:

This retrospective, registry-based analysis examined casualties from the SOI War (October 2023 – December 2024). Prehospital data were obtained from the IDF Trauma Registry, and in-hospital data from the Israeli National Trauma Registry. Southern and northern front characteristics were compared using chi-square or Fisher's exact test for categorical data and Student's t-test or Mann-Whitney test for continuous data.

Results:

4,626 casualties were recorded, with 4,000 from the southern front and 626 from the northern front. Extremity injuries were the most common, with similar rates on both fronts (63% southern; 64% northern; $p=0.5$), followed by torso injuries (24% southern; 24% northern; $p=0.9$). Explosions with shrapnel were the primary injury mechanism (78% southern; 83% northern), followed by gunshot wounds (22% southern; 17% northern; $p=0.024$). Tourniquet application was the most common life-saving intervention (14% southern; 13% northern; $p=0.7$), followed by whole blood transfusions (6.1% southern; 4.6% northern; $p=0.2$). Chest decompression (1.2% southern; 0% northern; $p=0.007$) and endotracheal intubation (2.4% southern; 0.5% northern; $p=0.002$) were infrequent.

Conclusion and Discussion:

Despite differences in combat environments, injury patterns and life-saving interventions were similar between both fronts in SOI War. The predominance of extremity and torso injuries, particularly from shrapnel, suggests a continued need for medical focus on hemorrhage control. Tourniquets and blood transfusions were the most frequently performed life-saving interventions, emphasizing the importance of hemorrhage control strategies in modern combat medicine.

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Shifting Priorities in Combat Casualty Care: Evaluating the Implementation of Circulation-First Resuscitation in Wartime

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Background and Purpose:

Recent evidence supports prioritizing blood product resuscitation over early airway and chest interventions in trauma care. In response, on April 30, 2024, the Israel Defense Forces (IDF) Medical Corps released new clinical practice guidelines that limit the indications for definitive airway management and chest decompression. This study evaluates the implementation and impact of these protocol changes during the recent ground operation in Gaza.

Materials and Methods:

This retrospective, registry-based study analyzed all IDF casualties injured during the Swords of Iron War ground maneuver (October 27, 2023 – November 30, 2024). Data were extracted from the IDF Trauma Registry and the Israeli National Trauma Registry. To evaluate trends in airway management and chest decompression procedures following the guideline update, prehospital interventions were compared across four time periods: October 27, 2023, to January 31, 2024 (Period 1); February 1, 2024, to April 30, 2024 (Period 2); May 1 to August 31, 2024 (Period 3); and September 1 to November 30, 2024 (Period 4).

Results:

A total of 3,984 casualties were analyzed across four periods. Of them, 2,328, 459, 819, and 378 in periods 1 to 4, respectively. Injury characteristics and mortality rates remained stable ($p>0.05$). Still, the proportion of casualties undergoing endotracheal intubations or cricothyroidotomy decreased progressively: 3.8%, 2.8%, 1.2%, and 0.8%, respectively ($p<0.001$). Similarly, needle or chest tube decompressions were performed in 2.8%, 3.1%, 0.9%, and 0.0% of casualties, respectively ($p<0.001$). Blood product administration rates remained unchanged at 7.8% ($p=0.8$).

Conclusion:

The marked reduction in prehospital airway and chest decompression interventions demonstrates the feasibility of implementing clinical protocol changes during wartime. These findings underscore the potential for evidence-based guidelines to optimize trauma care even in the challenging conditions of active conflict.