WG 5 (Combat Casualty Care)

## Commanding a Mass Casualty Incident

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**Background:**
On October 7th, Israel endured an unprecedented attack, marked as the deadliest day in its history, resulting in 1145 deaths (most of them civilians), over 1941 injuries and 253 individuals kidnapped to Gaza. The orchestrated attack unfolded simultaneously across over 60 locations. The escalating number of injuries, continuous rocket fire, and pervasive terrorist presence especially when tactically blocking evacuation routes and perilous conditions necessitated urgent, adaptable approaches to manage the crisis effectively. In response to the heinous attack, Military and civilian forces arrived independently or as organized units to the combat zones. There, they coalesced and established casualty collection points to provide initial lifesaving treatment and facilitate their evacuation to hospitals.
**Objective:**
To characterize the key principles contributing to mass casualty incident (MCI) management
**Methods:**
A retrospective review with senior medical providers and medical scene commanders who managed and treated casualties at MCI, to identify the unique command factors that facilitated effective incident.
**Results:**
The most important principle is unified and clear command, with standardized protocols for all forces. When dealing with non-organic forces working together, conducting detailed briefings enables synchronized and efficient work by the entire medical team.
Additionally, formulating accurate situational awareness, including understanding the battle zone, anticipating casualties, evacuation capabilities, and existing medical equipment, are critical for proper utilization of resources during MCI management.
The location of the casualty collection point has great importance and should consider the distance from the combat zone, convenient and relatively safe evacuation route and the possibility of establishing a temporary landing pad. Choosing the right location can improve both treatment and evacuation.
**Conclusion:**
October 7th terrible events highlighted the essence of MCI management. The main principles in commending MCI are uniformity and synchronization between all the medical and operational forces, continuous briefing, formulating situational awareness and choosing the correct location for casualty collection point.

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## Mass-Casualty Events During the Swords of Iron War: Injury Patterns and Battlefield Treatment Implications

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**Introduction:**
During the Swords of Iron War, the Israel Defense Forces (IDF) faced complex and high-threat environments, resulting in a significant number of mass-casualty events (MCEs). Understanding the injury patterns and medical response during MCEs is critical for optimizing battlefield trauma care and resource allocation. This study characterizes MCEs and examines the treatment provided in combat settings.
**Methods:**
This retrospective registry-based analysis included casualties injured during the Swords of Iron War between October 2023 and November 2024. Data extracted from the IDF Trauma Registry and the National Trauma Registry included population, injury, event characteristics, prehospital treatment, and data regarding mortality. Casualties were grouped by the number of casualties involved in an event (Group A: single casualty, Group B: two to three, or Group C: greater than three casualties), and injury patterns were compared accordingly.
IDF Advanced Life Support (ALS) providers are positioned at Role 1, responding within 1-4 minutes of an event.
**Results:**
A total of 5,474 casualties from military events were analyzed. Of these, 1,931 (35%) were single-casualty events, while 2,349 (43%) were involved in MCEs with four or more casualties. MCEs were significantly more likely to result from explosions (69% vs. 29% in single-casualty incidents, $p<0.001$) and had higher rates of multi-region injuries (29% vs. 5.6%, $p<0.001$). Casualties in MCEs had significantly higher injury severity (ISS>15 in 26% vs. 16.4%, $p<0.001$) and higher mortality rates (15% vs. 4.1%, $p<0.001$). Hemorrhagic shock was three times more common in MCE casualties (18% vs. 6.1%, $p<0.001$). Yet, blood product administration rates declined as the number of casualties per event increased (47% in single-casualty incidents, 37.6% in 2-3 casualty events, and 26.3% in MCEs, $p<0.001$). A similar trend was observed for TXA administration (35% in single-casualty incidents, 34% in 2-3 casualty events, and 24% in MCEs, $p<0.001$).
**Conclusion:**
MCE in the Swords of Iron War saw high explosive-related injuries, increased battlefield mortality, and more severely injured casualties. Blood product and TXA administration rates dropped as casualties rose, indicating resource limitations and triage challenges. These findings highlight the need for better battlefield medical strategies, improved resource allocation, and optimized hemorrhage control protocols to enhance survival in MCEs.