

Air Versus Ground Evacuation in Severe Combat Trauma

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Introduction

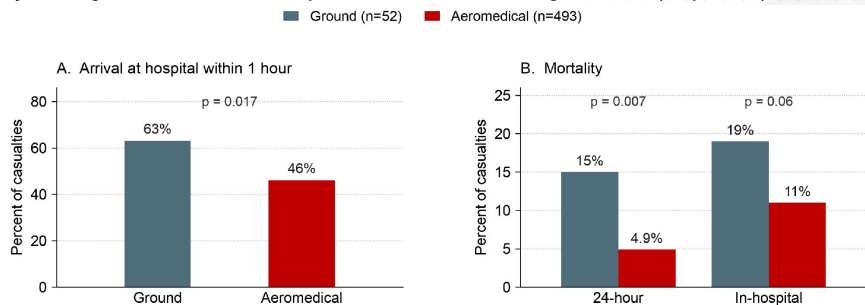
In military trauma systems, the choice of evacuation platform is determined primarily by operational constraints. Whether evacuation modality is associated with outcome among severely injured combat casualties remains unknown. We examined the association between ground and aeromedical evacuation and mortality among IDF combat casualties with major trauma during a recent high-intensity conflict.

Methods

Observational study of combat casualties with major trauma (Injury Severity Score ≥ 16) evacuated by the IDF Medical Corps by ground or aeromedical transport, 27 October 2023–31 July 2025. Prehospital data from the IDF Trauma Registry were linked to in-hospital outcomes from the Israeli National Trauma Registry. Ground and aeromedical groups were compared for injury characteristics, evacuation time, prehospital life-saving interventions, and mortality.

Results

545 casualties were included: 52 (9.5%) ground and 493 (90.5%) aeromedical. Injury severity was comparable. Aeromedical evacuation was associated with more frequent blood products, advanced airway management, chest decompression, and hemorrhage control (all $p < 0.05$).



Conclusions

Aeromedical evacuation was associated with lower 24-hour mortality despite comparable injury severity and a lower proportion arriving at hospital within 1 hour. This difference may reflect greater opportunity for prehospital resuscitative interventions rather than shorter transport time. However, evacuation modality was not randomly assigned. Ground evacuation was uncommon ($n=52$) and may include unstable casualties taken immediately to the nearest hospital.

Disclaimer This study was performed as part of the Israel Defense Forces Trauma and Combat Medicine Branch effort to improve the quality of combat casualty care and received no external funding or support.



At the moment of truth,
IDF MEDICAL CORPS.