

Patterns of trauma and burn injuries and their management outcomes in the Gaza Strip: A retrospective cohort analysis, May 2024–June 2025

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Background

The October 7 war in the Gaza Strip has caused catastrophic civilian harm, with more than 72,000 fatalities and 172,000 injuries reported by the Ministry of Health since October 2023. Despite this scale of trauma, systematic data on injury patterns, clinical management, and outcomes remain limited, constraining an evidence-based humanitarian response.

Methods

We conducted a retrospective cohort study using routinely collected programmatic data from surgical inpatients admitted to the MSF Trauma, Orthopedic, and Burn Unit at Nasser Medical Complex between May 2024 and June 2025. We described patient demographics, mechanisms of injury, clinical management, and in-hospital outcomes for trauma and burn cohorts.

Results

Among 3,029 admissions, 77% had traumatic injuries, 12% had burn injuries, and 11% had non-traumatic conditions. Trauma predominantly affected adult males, and 5% of trauma patients were children under 5 years. The leading mechanisms of traumatic injury were explosives (40%), road traffic accidents (38%), stab wounds (11%), and gunshots (11%). Burn injuries disproportionately affected young children, with 39% aged under 5 years, and were mainly caused by domestic hot liquids (59%), explosive-related events (30%), and domestic flame injuries (11%). Overall, in-hospital mortality was 0.6%. Amputations represented 5% of combined burn and trauma admissions and were mostly major and proximal. The mean length of stay was 14 days for burn patients and 8 days for trauma patients, and the mean number of surgical procedures was 2.0 for both

groups. Most patients were discharged home (90.4% of burns; 87.8% of trauma cases), with 5% transferred to the ICU. Most had no recorded inpatient complications.

Conclusion

This study highlights the severe burden of conflict-related trauma and burns treated, with most injuries caused by explosives and gunshots. There is an urgent need for sustained surgical capacity, rehabilitation services, and protection of healthcare infrastructure to improve care for trauma-affected populations.

This study describes trauma and burn inpatients managed by MSF in Gaza during the October 7 war, showing good short-term outcomes but significant long-term rehabilitation needs.