



BACKGROUND

Civilian injury patterns during missile-related conflicts may evolve over time with repeated population exposure and prolonged wartime conditions.



OBJECTIVES

To compare civilian wartime injury patterns, clinical severity, temporal dynamics, and sustained emergency department burden across recurrent missile-related conflict periods.



RESULTS

1. INJURY SEVERITY: SIMILAR AFTER ADJUSTING FOR MCI EVENTS

Mild Moderate Severe Anxiety-related/Death

Period 1 Overall (n=418)	83.3%	8.6%	1.9%	
Period 1 non-MCI (n=127)	86.1%	9.8%	0%	
Period 2 Overall (n=600)	97.0%	2.8%	0%	
P2 Early (n=419)	97.4%	2.6%	0%	
P2 Late (n=181)	97.2%	2.8%	0%	

After excluding MCI-associated casualties, injury severity profiles were similar: Mild injuries accounted for 86.1% (P1 non-MCI) vs. 97.0% (P2 Overall).



METHODS

Retrospective observational study of all missile-related civilian presentations to a large urban ED during two conflicts involving the same regional adversary.

Period 1: June 13–25, 2025 (n=418)
Period 2: February 28–April 19, 2025 (n=600)

Data: Demographics, injury severity, disposition, and related diagnosis categories.

Four nearly mass casualty incidents (MCIs) occurred in Period 1 – adjusted analysis excluding MCI-associated casualties ("Period 1 non-MCI", n=127).

Period 2 divided into early and late phases to evaluate temporal dynamics.

2. DIAGNOSIS PROFILE DIFFERED SIGNIFICANTLY (P1 non-MCI vs. P2 overall, p<0.001)

P1 non-MCI (n=127) P2 Overall (n=600)

Extremity injury	1.0%	44.2%
Head/Face/Neck injury	15.7%	15.0%
Thoracic injury	4.7%	4.7%
Superficial injury	4.2%	4.0%
Multi-region trauma	5.5%	5.0%
Psychological/Anxiety	0.8%	11.8%
Non-traumatic	10.9%	0.7%
Other / Unclear	2.4%	3.4%

3. TEMPORAL EVOLUTION IN PERIOD 2 (Early vs. Late Phase)

Extremity injuries Psychological/anxiety Multi-region trauma

Period	Extremity injuries	Psychological/anxiety	Multi-region trauma
Period 1 non-MCI	26.6%	10.7%	5.5%
P2 Early	31.9%	11.8%	5.0%
P2 Early	46.2%	5.7%	5.7%
P2 Late	34.8%	9.9%	2.2%

Extremity injuries peaked in the early phase of Period 2 (46.2%) before declining later (34.8%).
Psychological/anxiety presentations declined from 11.8% to 5.7%.
Multi-region trauma increased from 5.7% to 9.9%.
MCI-associated casualties were low: <only found even in the absence of nearby strikes or MCI activation>.
(MCIs) and endurance (sustained workload).

STUDY POPULATION

1,018 missile-related civilian presentations

PERIOD 1 June 13–25, 2025 418	PERIOD 1 non-MCI 127	PERIOD 2 Feb 28–Apr 19, 2025 600
	EARLY PHASE Feb 28–Mar 19 419	LATE PHASE Mar 20–Apr 19 181

4. SUSTAINED ED BURDEN EVEN WITHOUT NEARBY IMPACTS OR FORMAL MCI ACTIVATION

	Discharged Home	Admitted	Other / Null
P1 non-MCI (n=127)			
P2 Overall (n=600)	95.3%	4.7%	0%
	96.8%	1.8%	1.4%

Key Observation

The vast majority were low-acuity and discharged home, yet the volume of presentations remained high—demonstrating ongoing ED operational burden even without MCIs.



CONCLUSIONS

Civilian injury profiles evolved markedly across recurrent missile-related conflicts despite stable overall injury severity after adjustment for MCI events.

Sustained wartime-related emergency department burden persisted even without nearby missile impacts or formal MCI activation.

Preparedness strategies should address both acute mass casualty response and sustained low-acuity wartime operational burden during prolonged conflict conditions.



KEY TAKEAWAYS

- ✓ Injury severity remained low after adjusting for MCI events.
- ✓ Diagnosis patterns shifted, with more extremity and multi-region trauma, fewer psychological/anxiety presentations in Period 2.
- ✓ Extremity injuries spiked early in Period 2; multi-region trauma rose over time.
- ✓ ED face continuous high-volume, low-acuity load even in the absence of nearby strikes or MCI activation.
- ✓ Planning must balance surge (MCIs) and endurance (sustained workload).