EUSEM 2026
Paris | 23-24 September Pre-courses
France | 25-27 September Congress

Distribution of Injury Severity Score Across A/B/C Prehospital Triage Grades in a Mature Trauma System: a Retrospective Study

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Urg'Ara

BACKGROUND

Prehospital triage of trauma patients in France is based on a three-level grading system (A/B/C).

Objective: to analyze the distribution of the Injury Severity Score (ISS) across triage grades A/B/C in the trauma network of Auvergne-Rhône-Alpes (ARA).

METHODS

Retrospective study based on the registry of severely injured patients admitted to a level I trauma center (6) in the ARA region.

Analysis of the distribution of ISS in four groups.

STUDY POPULATION

1,322 patients included from September 2023 to September 2025

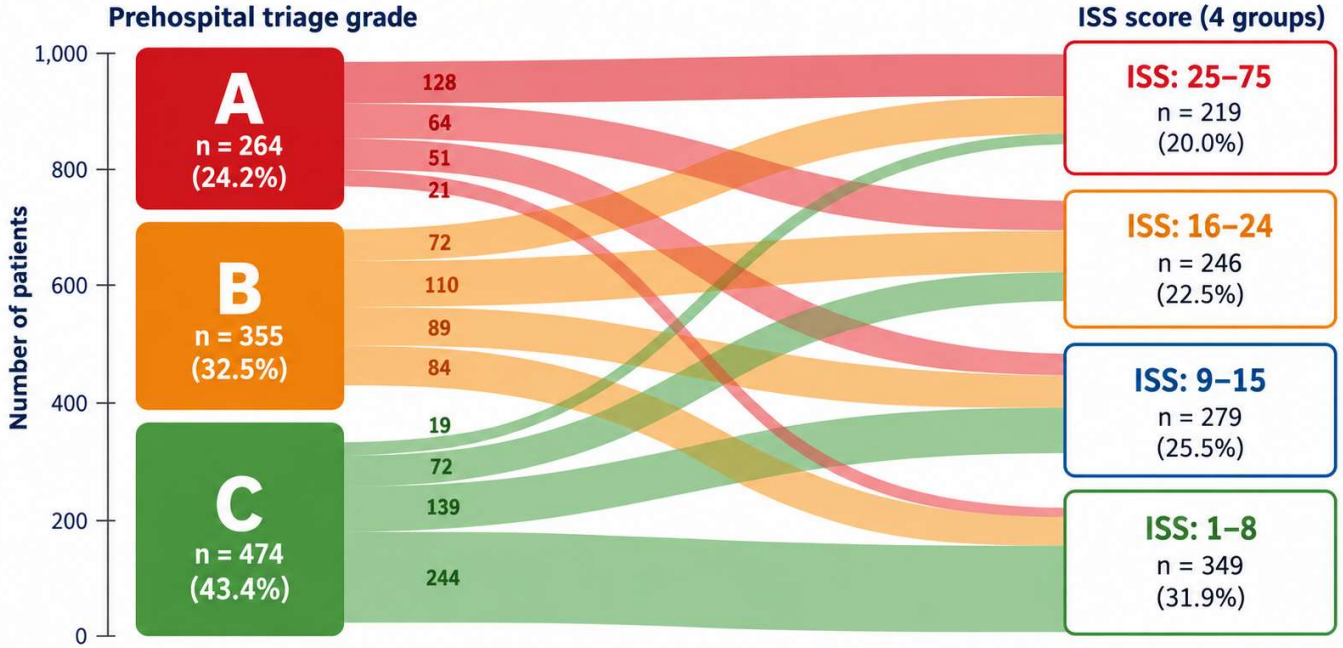
- 80% male
- Median age: 39 years
- Median ISS: 12 [5 ; 21]

MAIN MECHANISM OF INJURY

Motor vehicle accidents	20%
Mountain-related accidents	17%
Falls	17%

Distribution of triage grades according to ISS groups

(N = 1,093 patients with both triage grade and ISS available)



Flows are proportional to the exact numbers from Table 5:
C = 244/139/72/19 ; B = 84/89/110/72 ; A = 21/51/64/128.

KEY FINDINGS

Grade A
73% of grade A patients have an **ISS ≥ 16** and **48%** have an **ISS ≥ 25**

Grade B
56% of grade B patients have an ISS 9–24

Grade C
51% of grade C patients have an ISS < 9
19% have an ISS **≥ 16**
19 critical cases (ISS ≥ 25)

CONCLUSION

This exploratory study shows that the A/B/C grading system identifies the majority of patients with an ISS ≥ 16, allowing appropriate prehospital orientation. However, 19% of patients classified as grade C have an ISS ≥ 16, including 4% with an ISS ≥ 25. These preliminary results need to be confirmed in a larger representative sample, and the key discriminant criteria for grade C patients should be identified to minimize the risk of under-triage.

KEYWORDS
Prehospital triage, Trauma, Injury Severity Score, ISS, Grading, Trauma network

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