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## Simple tweak could improve ER over-triage



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No consensus exists in the literature on the use of uniform emergency room trauma team activation criteria (ERTTAC). At present, excessive over- or under-triage rates continue to be a challenge for most trauma centres. Swiss researchers evaluating the application of ERTTAC, published for use in the German TraumaNetwork DGU®, at their institution observed higher under- and over-triage rates than recommended by the American College of Surgeons (ACS).

"Under-triage was mainly caused by non-compliance to the triage protocol. If the ERTTAC had been applied properly in all cases, the resulting theoretical under-triage rate would conform well to the recommendations of the American College of Surgeons," according to the research published in the *Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine*.

Published trauma triage protocols are highly divergent. For this study, the researchers chose the most up-to-date ERTTAC published by and recommended for use in the German TraumaNetwork DGU®. These criteria were developed from the evidence-based recommendations for the treatment of the severely injured as published by the German Society for Trauma Society (DGU®), but are less strict. For example, for the TraumaNetwork DGU® ERTTAC a Glasgow Coma Scale (GCS) < 14 was chosen as an alert criterion for ERTTAC instead of a GCS < 9 as given in the evidence-based recommendations. This principal decision for a more aggressive inclusion of trauma patients in the ER aimed to reduce the risk of missing severe trauma cases.

The current study included consecutive adult (age > 15 years) trauma patients treated at the emergency department of a level II trauma centre from 01.01.2013–31.12.2015. All data were collected prospectively. To identify over- and under-triage, patients with an Injury Severity Score (ISS) > 15 were defined as requiring specific emergency room (ER) management. ANOVA, Student's t-test and chi-square analysis were used for statistical analysis with mean values ± standard deviation.

In all, 1,378 adult injured (64% male) received ER trauma team treatment (mean age 48.3 ± 21.2 years; ISS 9.7 ± 9.6) during the observation period. Of those, 326 ER patients (23.7%) were diagnosed with an ISS > 15, which proved to be an over-triage of 76.3%. 80/406 trauma patients with an ISS > 15 were not referred to the ER, resulting in an actual under-triage rate of 19.7%, mainly because the criteria list was not observed. Effectively applying ERTTAC according to the protocol in all cases would have reduced under-triage to 2.0% (8/406), the research team said.

Notably, the most frequent trigger for trauma team activation was injury mechanism (65%). A simulation revealed that omitting the criterion 'passenger of car or truck' (n = 326) would have prevented over-triage in 257 cases, as such lowering over-triage rate to 62.4% and at the same time increasing under-triage by only 8 cases to 7.1%.

"According to our data excluding the trauma mechanism criteria for car and truck injuries could improve the over-triage rate importantly without relevantly increasing under-triage of the severely injured," the researchers explained. "If other centres confirm these pilot results and manage to strictly execute the ERTTAC as published for the TraumaNetwork DGU® in daily routine, sufficiently low under-triage rates in relation to the ACS recommendations may be expected."

Source: [Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine](#)

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