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## The validation of New Injury Severity Score for severe and critical trauma patients

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### Abstract

**Background:** Considerable part of traumatized patients has criteria for severe/critical trauma. There is no international consensus concerning the most accurate traumatic scores. Their utilization in Moldova requires optimization. This article's goal is to validate the predictive ability of New Injury Severity Score (NISS) in severe/critical trauma patients admitted in Moldovan trauma center.

**Material and methods:** The retrospective cohort study, trauma patients (n=476) were admitted to Intensive Care Unit (ICU). The cohort was divided into severe (NISS > 15) and critical (NISS > 24) traumas. To achieve the aim, the multivariate logistic regression was used. The results were adjusted to gender, age and the mechanical ventilation use.

**Results:** Severe trauma model had an acceptable determination coefficient (Nagelkerke R Square=0.541). The calibration was poor (Hosmer-Lemeshow test,  $\chi^2=17.430$ , df=8, p=0.026). The discrimination parameters, sensibility and specificity, were 85.9% and 85.1%. The determination coefficient for critical trauma model was 0.568, the calibration ability being normal ( $\chi^2=7.249$ , df=8, p=0.510). The sensibility and specificity were 70.9% and 94.7%, respectively.

**Conclusions:** In this study, were proposed two mathematical models that validated NISS as an instrument to predict the outcomes in severe/critical trauma patients admitted in Moldovan trauma center. In general, the model's characteristics (determination, calibration and discrimination) could be appreciated as good ones with some limitations. Taking into account the advantages and disadvantages, both models could be recommended for daily practice usage in condition of ICU from Emergency Medicine Institute.

**Key words:** new injury severity score, severe trauma, critical trauma, score validation.

### Cite this article

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