



## Venous thromboembolism risk stratification for patients with lower limb trauma and cast or brace immobilization

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**Résumé en anglais**

**BACKGROUND:** Thromboprophylaxis for patients with non-surgical isolated lower-limb trauma requiring immobilization is a matter of debate. Our aim was to develop and validate a clinical risk-stratification model based on Trauma, Immobilization and Patients' characteristics (the TIP score).

**METHODS:** The TIP score criteria and the cut-off were selected by a consensus of international experts (n = 27) using the Delphi method. Retrospective validation was performed in a population-based case-control study (MEGA study). The potential score's impact in anticoagulant treatment was assessed in a prospective single-center observational cohort study.

**FINDINGS:** After four successive rounds, 30 items constituting the TIP score were selected: thirteen items for trauma, three for immobilization and 14 for patient characteristics were selected, each rated on a scale of 1 to 3. In the validation database, the TIP score had an AUC of 0.77 (95% CI 0.70 to 0.85). Using the cut-off proposed by the experts ( $\geq 5$ ) and assuming a prevalence of 1.8%, the TIP scores had a sensitivity, specificity and negative predictive values of 89.9%, 30.7% and 99.4% respectively. In the prospective cohort, 84.2% (165/196) of all the patients concerned who presented at the emergency department had a low VTE risk not requiring thromboprophylaxis according to their TIP scores. The 3-month rate of symptomatic VTE was 1/196 [95% CI 0.1-2.8] this patient was in the sub-group TIP score  $\geq 5$ .

**CONCLUSION:** For patients with non-surgical lower-limb trauma and orthopedic immobilization, the TIP score allows an individual VTE risk-assessment and shows promising results in guiding thromboprophylaxis.

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