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### Predictors for Survival of Penetrating Trauma Using Emergency Department Thoracotomy in an Urban Trauma Center: The Cardiac Instability Score

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#### Background

Emergency department thoracotomy (EDT) is a procedure used in an attempt to save lives of patients in extremis. This study aims to determine predictors of survival and futility by proposing a scoring scale that measures cardiac instability and its use in predicting survival of victims of penetrating trauma undergoing EDT.

#### Methods

This retrospective study analyzes patients who underwent EDT during a 45-month period at Howard University Hospital, Washington, DC. Vital signs and Glasgow Coma scale (GCS) scores were analyzed at the scene and in the emergency department. A cardiac instability score (CIS) was devised to assign values to vital signs, and the GCS was based on scores from the emergency department.

#### Results

Emergency department vital signs, female gender, absence of cardiopulmonary resuscitation (CPR), and high CIS were found to be statistically significant predictors of survival.

#### Conclusions

The CIS correlated with survival of patients who underwent EDT and was found to be statistically significant in determining the outcome of an EDT.

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#### Keywords

survival; surgery; predictor; emergency care

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