

# Upper Extremity Replantation Outcomes Following Traumatic Injuries

## A National Trauma Databank Study

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## Introduction

Traumatic upper extremity amputations may be managed with replantation which has been shown to significantly improve functional outcomes in selected cases. Multiple factors, including hospital characteristics, may influence the success of upper extremity replantation. The aim of this study is to evaluate the influence of these factors of replantation success.

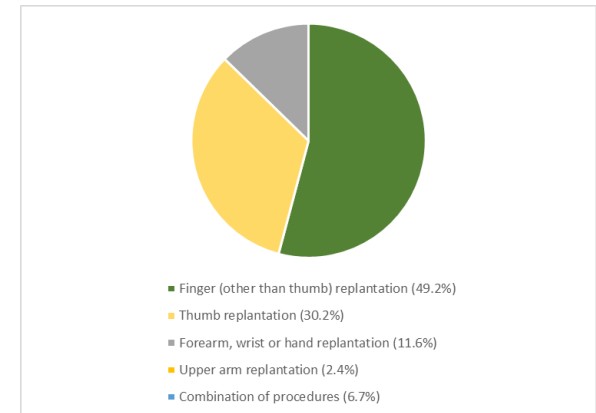
## Methods

Query of the National Trauma Databank from 2004 to 2016 was performed for all patients suffering from traumatic upper extremity amputations who underwent replantation. Patient demographics, hospital characteristics, time to replantation, and outcomes were assessed. Regression analysis was performed.

## Results

We identified 909 patients, 14.3% females and 85.7% males, who underwent upper extremity replantation following traumatic amputation (Figure). Replantation failure was reported in 20 cases (2.2%). Replantation procedures were shown to be more successful at hospitals with >400 beds (OR = 4.795; 95% CI, 1.66 to 13.81).

Median time to replantation was 4.6 hours in successful procedures, and 2.5 hours in ultimately not successful procedures. Time to replantation did not affect replantation success (OR = 1.006; 95% CI, 0.995 to 1.016).



## Conclusion

Reported replantation failure was low. Time to surgery itself is not an independent factor in predicting replantation success, while larger hospital size may be associated with better procedure outcomes.