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DOES AEROMEDICAL TRANSPORT INCREASE ANYTHING ELSE BESIDES THE COST OF CARE FOR TRAUMA PATIENTS?
Joshua J Shaw, MD & Heena P Santry, MD

INTRODUCTION Unlike many other interventions for trauma, the utilization of transport services are directly impacted by environmental factors such as geography and weather. The previous literature on aeromedical transport for trauma patients has not accounted for the variability in patient selection based on these factors. Furthermore, travel distances for aeromedical transport are rarely accounted for when trying to address this controversial topic. We undertook this study to determine whether helicopter transport imparted a survival benefit.

METHODS Our institution’s trauma registry was queried from January 1, 2000 to December 31, 2010 for adult patients (≥15 yrs of age) transported directly from the scene of injury to our level one trauma center in central New England. Cohorts were designated ‘AIR’ if transported by helicopter and ‘GROUND’ if by ground EMS vehicles. A multivariable logistic regression model for mortality was constructed. In order to account for the travel time a patient would have been subject to if transported by ground, we included a co-variate for network bands in our model. Network bands were generated by 5-min increments, using Maptitude geographic information systems software that measure predicted time of travel based on available roadways and traffic patterns, as shown in figure 1.

RESULTS There were 3,615 patients who met inclusion criteria on these days. 1,281 (35%) were assigned to the AIR cohort and 2,334 (65%) were assigned to the GROUND cohort. Multivariable analyses of mortality showed that neither mode of transport nor the distance traveled were independent predictors of mortality. However, intubation status, presence of abnormal systolic blood pressure at the time of presentation to the trauma center, age, ISS, AIS and RTS were all independent predictors of mortality.

CONCLUSION There was no survival benefit for patients transported by helicopter in this study.

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Figure 1: Network Bands in 5min driving increments from our center