Helicopter Versus Ground Emergency Medical Services: A Scoping Review

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Objectives

This scoping review seeks to identify trends in survival outcomes data comparing helicopter and ground emergency services (GEMS) transports directly from trauma scenes to definitive care, critically assess the quality of existing data, and generate questions for further directed study

Introduction

- EMS professionals must decide the best way to transport trauma patients from the scene of the injury to a hospital- typically choosing between ground EMS (GEMS) and helicopter EMS (HEMS).
- Few objective guidelines exist to guide HEMS utilization
- The goals of this review were to elucidate patient characteristics in which HEMS provides a survival benefit

Methods

- PubMed search utilizing MeSH search terms and keyword searches
- Screened 306 studies. 52 were considered for inclusion, 41 were included in final list after independent review.
- Inclusion criteria:
  - HEMS vs GEMS survival outcomes (primary outcome)
  - Only trauma
  - 2010 or later
  - Transport from scene of injury
  - ISS or equivalent

Limitations

- The quality of evidence surrounding HEMS vs. GEMS outcomes is poor, largely due to the methodological limitations of observational study.
- The ability to draw objective comparisons between studies is limited by the heterogeneity of the existing data.

Results

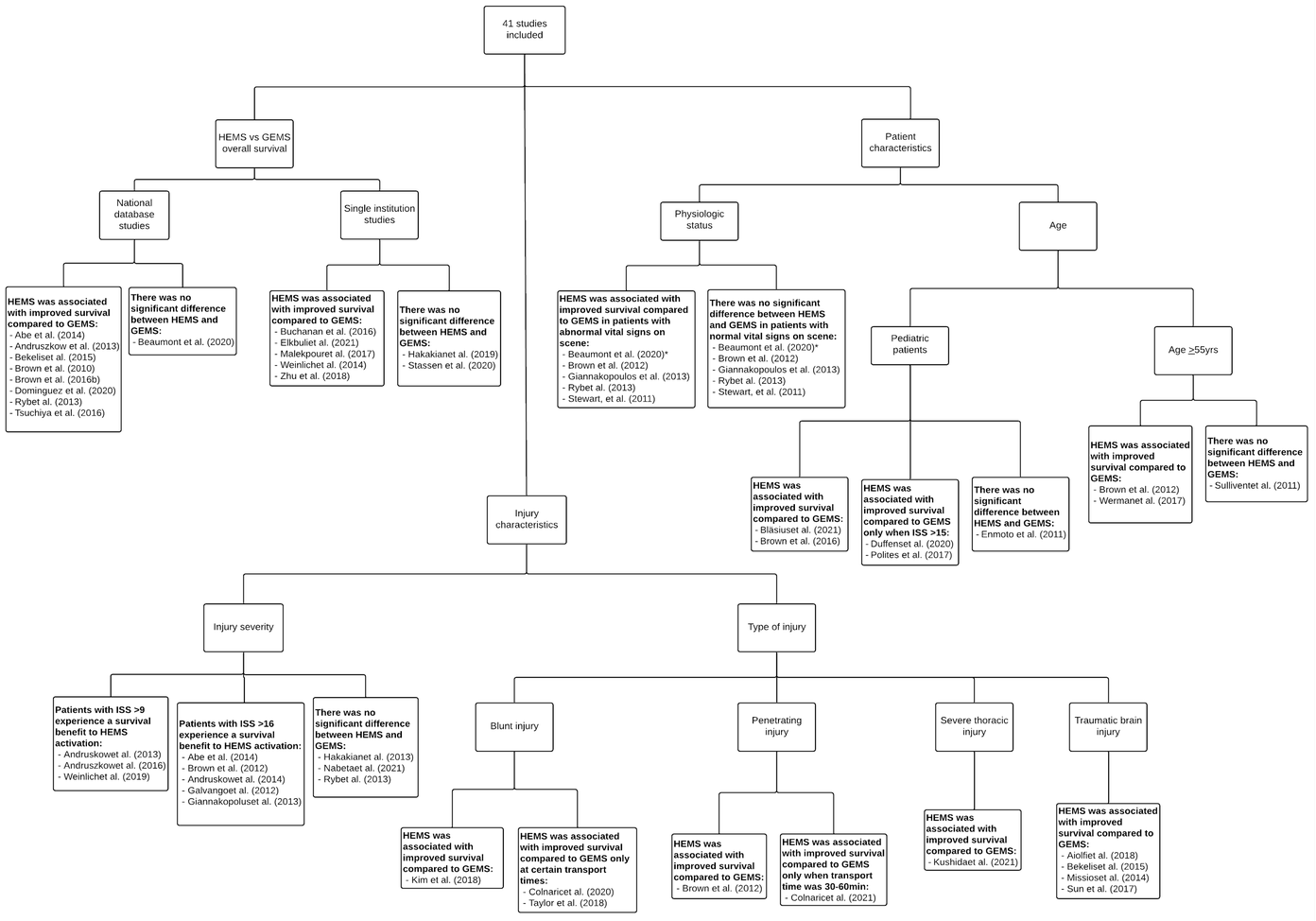

Figure 1. Themes and trends in HEMS vs GEMS outcomes literature

**Buchanan et al. (2020) reported that patients with physiologic instability are more likely to benefit from HEMS than GEMS, though the association was not statistically significant.*

Conclusions

- Overall, transport from trauma scenes by HEMS is associated with improved adjusted survival compared to GEMS.
- Several studies suggest that patients with unstable vital signs on scene and those with traumatic brain injuries benefit most from HEMS activation.
- Further high-quality study is needed to determine what patients benefit most from HEMS activation.
- Objective, physiologic guidelines are needed to guide transport decisions on trauma scenes.

Disclosures

- None of the authors have any disclosures

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References

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