

IRB PROTOCOL

Project Title: Assessing the Utility of the Air Medical Prehospital Triage (AMPT) Score in Appropriately Identifying Patients that Require Helicopter Emergency Medical System (HEMS) Transport Rather than Ground EMS (GEMS)

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This document and any and all information contained herein is considered and must be treated as strictly confidential.

1. PURPOSE and AIMS

The overall purpose of the study is to determine if the Air Medical Prehospital Triage (AMPT) scoring system can be employed by **prehospital** personnel to reduce overuse of helicopter emergency medical system (HEMS) transport for injured trauma patients captured by hospitals in the Foothills Regional EMS/Trauma Advisory Council **5-county region**. (FRETAC).

Aim #1: To describe the characteristics of the patients transported by HEMS in the FRETAC.

Aim #2: To understand the potential utility of AMPT in triaging patients to helicopter transport for **prehospital** providers in the FRETAC.

2. BACKGROUND AND RATIONALE

Transport using helicopter EMS (HEMS) often offers significant benefit over ground EMS (GEMS). Since the outset of transport via helicopter, investigators have shown that HEMS can significantly reduce mortality [1-3]. However, other studies have shown that HEMS might only have utility in very specific subsections of the population – for patients younger than 55 [4], for severely injured patients with ISS > 15 [5], for patients with physiologic instability displaying RTS < 6 [6], and for patients being transported > 10 miles [7]. In fact, investigators have demonstrated that HEMS is often used excessively [8], that the majority of trauma patients transported by helicopter have non-life-threatening injuries [9], and this overtriage may be contributing to the survival benefits seen by HEMS-transported patients [1].

Additionally, HEMS transport is expensive, and the cost-benefit balance is often lacking. In 2010, the average cost of a flight from injury scene to treating trauma center was approximately \$6,500 [10]. However, the necessity of HEMS in rural areas is undeniable; there are areas inaccessible by GEMS, and occasionally the topography (i.e., mountains, roadless areas, etc.) make it all but impossible to utilize any transport method other than a helicopter. However, when the personal discretion of pre-hospital staff is used in choosing HEMS over GEMS, the chances of overtriage grow.

In order to curb overuse of HEMS, Brown and colleagues built and validated the Air Medical Prehospital Triage (AMPT) scoring system [11]. This score is employed at the injury scene, and it has been externally validated to show its ability to help identify trauma patients that would benefit most from HEMS [12]. The AMPT has also demonstrated money savings—showing cost-effectiveness in 85% of patients versus only 15% using the existing published field triage guidelines [13].

In this retrospective study, we plan to assess the utility of the AMPT score in determining which Foothills RETAC (FRETAC) patients required HEMS and which patients may have been transported via GEMS without subsequent adverse outcomes. This assessment of the functionality of the AMPT scoring system will add to its generalizability and could serve as the foundation for studying its implementation among EMS teams throughout the Foothills RETAC and, potentially, Colorado.