

Abstract TP254: The Use of Prehospital Telemedicine to Aid in the Decision to Airlift Patients to a Comprehensive Stroke Center From a Rural Area

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Abstract

Introduction: In patients with acute ischemic stroke, significant time can elapse from symptom onset until initiation of thrombolytic therapy. Prehospital diagnosis can reduce time delays, and remote evaluation using telemedicine may help; especially in the context of rural areas where a decision to airlift the patient to a stroke center must be made. The Florida Keys is a stretch of 126 miles with no stroke center. In order to combat delays to therapy, a system was implemented to airlift patients directly from the field to a comprehensive stroke center. Air transport costs can range \$10,000-\$50,000 per patient, whereas the cost to place the telemedicine unit inside the ambulance was \$2,250.

Hypothesis: The purpose of the study was to determine the feasibility of using prehospital telemedicine as a triage tool to air transport stroke patients.

Methods: Fire Rescue units in three departments were equipped with a smartphone programmed with encrypted software. Noise cancelling headsets were provided, together with a hard mount antenna. Stroke physicians were given a tablet with the same software. Prehospital providers conducted the CPSS initially, then the MEND exam, and if abnormal, contacted the stroke physician for a telemedicine consult. Crews were stationed on a designated landing zone, in an effort to reduce time to air transport after the exam was performed. Upon the patient's arrival at the receiving facility, the physician performed the NIHSS again and recorded his/her findings.

Results: From January 2013 to July 2015, physicians utilized telemedicine to evaluate 45 stroke patients. The initial pilot phase led to software and hardware upgrades to enhance patient examinations. The average NIHSS was 10. Initial analysis revealed a high correlation between the NIHSS done over telemedicine and the arrival NIHSS performed by the same physician. EMS providers and stroke physicians found the system easy to use and extremely valuable in making the triage determination.

Conclusion: The use of prehospital telemedicine to conduct a neurological exam by a stroke physician has proven to be a valuable tool. Prehospital telemedicine for stroke air transport determination is feasible and cost-effective.

- Stroke

- Emergency care

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