

ARE OUTCOMES IN PATIENTS WITH PRESUMED HEAD INJURIES THAT UNDERGO RSI IMPACTED BY INSTITUTIONAL PRACTICES AND MEDICATION CHOICE? S Trent MD, DJ Therwhanger (MD Candidate, University of Colorado School of Medicine Class of 2021). Department of Emergency Medicine at Denver Health.

**Please note that this is a working title I have come up for the assignment as the study is ongoing. This is not an official title decided on by my mentor.**

I have no conflicts of interest to disclose.

**Abstract:**

Rapid sequence intubation procedures have been subject to change over the past ten years as new paralytic medications have come into wider practice. Traditionally succinylcholine has been the most popular medication for this procedure but the past decade has seen a significantly large increase in the use of rocuronium, a newer agent on the market (20). Many conflicting studies have been performed on the outcome differences between these medications. For the most part, it is up to institutional and provider preference for which medication to use during RSI.

Hypothesis/Objective: Our hypothesis with this study is threefold:

- a. Choice of pharmacologic management of RSI in ED patients with presumed head injury varies significantly across institutions.
- b. Patient and institutional characteristics are significantly associated with variation in pharmacologic management of RSI in ED patients with presumed head injury.
- c. Patient outcomes are significantly associated with variation in pharmacologic management of RSI in ED patients with presumed head injury

The purpose of the study is to prove that not only do procedural differences exist between institutions, but that these differences are leading to significant differences in patient outcomes.

Methods: This will be a retrospective chart review study using the NEAR database, which is an intubation database to which participating institutions can upload intubation data for research purposes. Patient MRNs will be taken from the NEAR database and then input into Epic. The emergency department and neurosurgery charts will be examined for the following parameters: whether a head injury was present (a head injury must be confirmed by imaging study), what the patient's GCS at time of arrival was, whether ICP monitoring was initiated in the ED, whether Mannitol was administered, the intubation medication used, if the patient underwent emergent neurosurgery within 4 hours of arrival, if the patient survived to hospital discharge, and what the disposition at discharge was. These measures will be compared across institutions to first determine whether significant differences exist between institutions, and, if so, whether these differences lead to significant differences in patient outcomes.

Current Progress: Currently we have encoded into an Excel spreadsheet data from approximately 400 patients from Denver Health. We are actively collecting more data for input. We will then collect data from other institutions and run statistical analyses. The study is in its very early stages.