

Paramedic – Evidence Based Medicine (P-EBP) Program

Paramedic CAT (Critically Appraised Topic) Worksheet

Title: Prehospital Intubation Securing Methods

Report By: Alexander Shaw

2nd Party Appraiser: Jen Greene

Clinical Scenario:

Paramedics arrive to find a 54 year old male patient involved in a house fire. The patient has significant amounts of soot around the face, nose and mouth and is complaining of tightness in the throat with audible stridor. The paramedics decided to intubate the patient to secure and protect. After intubating the patient, they secure the endotracheal tube with a commercial tube holder. The tube holder is intended to prevent accidental dislodgement.

PICO (Population – Intervention – Comparison – Outcome) Question:

In patients that are prehospitally intubated, does a commercial tube holder help prevent tube dislodgement compared with using twill tape?

Search Strategy:

(Prehospital) and (endotracheal intubation) and (“commercial securing device”)

Search Outcome:

5510

Relevant Papers:

Author, Date	Population: Sample characteristics	Design (LOE)	Outcomes	Results	strengths/ Weaknesses
Douglas Kupas Karl Kauffman Henry Wang 2009	1732 patients undergoing tube securing efforts (pre hospitally) in intubated patients	Prospective, observational, multicenter study LOE 2	Rate of dislodgement	Tube manually held: 12.5%dislodgement Commercial tube holder: 2.3% dislodgement Twill tape: 0.0% dislodgement	+ Large population number + High CI - Not randomized - No independent confirmation - No standardization of level of care
Murdoch, E. Holdgate, A. 2007	270 tube fixations undergoing a transfer from prehospital to hospital	Prospective simulation study with a comparison group LOE 3	Rate of dislodgement	Commercial tube holder: 0.0% dislodgement Twill tape: 63% dislodgement	+ High CI - Manikin Based

Comments: These were non traumatic intubated patients (no cervical collar)

Consider: *Why would you NOT change practice, based on this article?*

In reference to the initial question there was a large amount of drift. There have not been many clinical studies showing the effectiveness of tube holders.

Clinical Bottom Line:

There is not enough quality evidence to show that a certain way is more secure than another. Additionally, these studies even have opposing results.

References:

Kupas D., Hoffmann K., Wang H., Effect of Airway-Securing Method on Prehospital Endotracheal Tube Dislodgment. *PEC*, 2010; 14:1:26-30

Murdoch E., Holdgate A. A comparison of tape-tying versus a tube-holding device for securing endotracheal tubes in adults. *Anaesthesia and Intensive Care*, 2007; 35:5:730-735