

## **UC Irvine**

### **Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health**

#### **Title**

Comparison of the Esophageal-Tracheal Combitube (ECT) and Endotracheal Tube (ETT) in the Pre-hospital Setting

#### **Permalink**

<https://escholarship.org/uc/item/2nm4z0r6>

#### **Journal**

Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health, 3(3)

#### **ISSN**

1936-900X

#### **Authors**

Calkins, T R  
Langdorf, M I  
Miller, K  
[et al.](#)

#### **Publication Date**

2002

#### **Copyright Information**

Copyright 2002 by the author(s). All rights reserved unless otherwise indicated. Contact the author(s) for any necessary permissions. Learn more at <https://escholarship.org/terms>

Peer reviewed

## Comparison of the Esophageal-Tracheal Combitude (ECT) and Endotracheal Tube (ETT) in the Pre-hospital Setting

Calkins TR, Langdorf MI, Miller K, Hill MA

**Study Objectives:** To compare success and complication rates between ETC and ETTs by paramedics. Placement with successful ventilation was the primary outcome, with complication rates, survival to admission and discharge, and aspiration pneumonia as secondary measures.

**Methods:** Retrospective review of three years of EMS runsheets for all patients where an ECT was attempted. Abstracters were hypothesis-blinded, trained and monitored ( $Kappa = .7-1.0$ ). This EMS system uses the ETC primarily as an alternative airway to failed tracheal intubation. Pharmacologically assisted intubation is not used. ETT patients were selected from the EMS QA database for the same period. We reviewed the charts of 19 ECT patients.

**Results:** ECT insertion was attempted on 200 patients: 140 (70%) successful, 55 (27.5%) failed (some for multiple reasons), and 5 not recorded. An ETT was attempted for 169 patients: 152 (90%) successful, 17 (10%) failed. ECT location was noted in 104: 83 (80%) esophageal, 21 (20%) tracheal. Inability to determine placement of the ETC was due to emesis from both ports in 28 cases and inability to pass the ECT occurred in 29. The ECT caused one patient dental trauma, and one ETC placement was temporally related to the onset of subcutaneous emphysema. Blood in the ETC from pre-existing active upper GI bleed occurred in 10 patients (5.3%) and 6 tubes (3.2%) dislodged. Ninety-one runsheets noted disposition; 18 (19.8%) survived to hospital admission. Of 19 ECT hospital charts reviewed, 5 survived to admission, none to discharge. Average admission ABGs were pH 7.02/pO<sub>2</sub> 288/pCO<sub>2</sub> 57/HCO<sub>3</sub> 15. Length of stay was 1-21 days, with aspiration pneumonia present in 2/5.

**Conclusions:** Similar to previous reports, ETT success was greater than ECT. In an earlier study, EMT-Ds had a higher ECT success rate (155/195 or 79%) than paramedics here (70%) ( $p=.04$ , OR 1.67 (95% CI 1.02-2.70)). Successful ECT use may depend on local experience and level of specific training, rather than comprehensive paramedic training.

## Parents Signing Children Out Against Medical Advice from the Emergency Department; Investigating the Standard of Care Concept in Physician Management

Salem L, Greenston M, Hardin ME

**Objectives:** To elicit the practice patterns of board-certified emergency medicine physicians when a parent demands to sign out their child against medical advice.

**Methodology:** E-mail requests were submitted to board certified, emergency physicians requesting their participation in an anonymous, web-based electronic survey. Physicians who agreed to participate were presented with a fictitious case scenario describing a mother who brings her febrile, lethargic 4-month-old infant into an emergency department. The infant's vital signs were reported to be temperature 104.5 F, heart rate 150, respiratory rate 30 and blood pressure 84/60. The mother, who does not appear to be intoxicated or confused, becomes very upset that the nurse is unable to establish an intravenous line after two attempts. Angrily, she proceeds to pick-up the infant and leave the Emergency Department prior to a complete medical evaluation by the physician. After being presented this fictitious case scenario, subjects were then asked how they would manage the situation if the infant and mother had presented to them in their usual practice setting.

**Results:** Of the 674 board certified emergency medicine physicians who correctly completed the survey, 214 (32%) physicians stated that they would allow mother to leave with infant and take no further actions; 214 (32%) physicians stated that they would request the mother to sign release from medical liability forms prior to leaving; 131 (19%) stated that they would allow mother to leave with infant but report the case to Child Protective Services afterwards; 115 (17%) physicians stated that they would call security immediately to prevent mother and infant from leaving. The data was analyzed using the Chi-squared test and found to be statistically significant ( $p < .05$ ).

**Conclusions:** This study suggests that a single 'standard of care' is not being practiced in emergency medicine with regards to the management of parents signing out children AMA and that structured guidelines are needed.