

POSTER 19-44

Ability of Emergency Medical Technicians to Confirm Esophageal Tracheal Combitube Placement in a Canine Model

*Douglas F. Kupas, MD, William D. Fales, MD

Geisinger Medical Center, Department of Emergency Medicine, Danville, Pennsylvania; Michigan State University, Kalamazoo Center for Medical Studies, Kalamazoo, Michigan

Hypothesis: This study compares the ability of Emergency Medical Technicians (EMTs) to recognize placement of the Esophageal Tracheal Combitube (ETC) using either traditional auscultation (ASC) or the syringe aspiration technique (SAT).

Methods: Two groups of rural volunteer EMTs were randomly trained in identifying ETC placement by either SAT or ASC. Training methods included lecture, video, and mannequin practice. A randomized, blinded, cross-over design was used to assign each EMT to a canine model, in which an ETC was previously placed by direct visualization in either the trachea or esophagus. Every EMT was exposed randomly to both tracheal and esophageal tube placement, and each was asked to identify tube placement and ventilate the subject. The study was repeated after six months without retraining the participants.

Results: Tube position was identified correctly in both the esophagus and the trachea by 81% (17/21) of participants using ASC versus 83% (10/12) of EMTs using SAT ($p = 0.63$, Fisher's Exact Test), and at six-month follow-up, the placement was identified correctly in both positions by (9/11) 82% of participants using ASC versus (0/11) 0% using SAT ($p < 0.001$). Time to correctly identify placement was 29 seconds by ASC and 17 seconds by SAT ($p < 0.001$, t -test).

Conclusion: Rural volunteer EMTs can identify correct placement of the ETC equally well using the SAT or ASC, but the retention of ASC skills was significantly better. Time to correctly identify placement was faster with the SAT. The error rate with either technique could potentially be significant in clinical use.

POSTER 20-45

Triage Accuracy of Priority Dispatching in an All-Paramedic EMS System

*Edward T. Dickinson, MD, NREMT-P,^{1,2}

Jonathan F. Politis, BA, NREMT-P,²

Francis X. Beaudet, MRA, NREMT-P¹

1. Department of Emergency Medicine, Albany Medical Center, Albany, New York
2. Town of Colonie EMS Department, Latham, New York

Purpose: To test the ability of a commercially available priority dispatch (PD) system to safely exclude the need for ALS intervention.

Methods: Retrospective review of dispatch logs and pre-hospital care reports from an all-paramedic, suburban EMS system utilizing a manual PD card system. Calls determined to be low priority, and presumably not requiring ALS care, were dispatched as Priority 2 (P2), no red lights and siren. Priority 1 (P1) calls, red lights and siren response, were dispatched when a potentially life-threatening call was detected by use of the PD cards. Incidence and types of ALS interventions, response times (RT), and frequency of dispatcher error were examined.

Results: Two-thousand four-hundred forty-six (2,446) consecutive EMS dispatches over a five-month period (23.3%) were dispatched as P2. Of these P2 responses, 83 (14.8%) subsequently received ALS care. Of these P2-ALS patients, 67 (81%) received only IVs with the remainder receiving at least one ALS drug. The most frequently administered drug was nitroglycerine (10 occurrences) followed by albuterol and naloxone (two occurrences each). One P2 patient received epinephrine and atropine after suffering a cardiac arrest. Mean RT for P2-ALS calls was 9.8 ± 3.9 min. as compared 5.8 ± 1.9 min for the P1 calls. Dispatcher error was identified in six (7.2%) of the P2-ALS calls.

Conclusion: The frequency of incorrect triage (as defined by P2 calls where ALS care occurred) utilizing the manual PD card system was relatively high. Although drugs were administered in only 19% of the P2-ALS calls, the disparity in response times between P2-ALS and P1 calls potentially could affect patient outcome in selected cases.