

(R96) Radiological Validation of Endotracheal Tube Insertion Depth in Hospital Emergency PatientsWolfgang Geisser,¹ Marc O. Maybauer,^{1,2} Holger Wolff,¹ Ernst Pfenninger,¹ Dirk M. Maybauer^{1,2}

1. University Hospital of Ulm, Ulm, Germany

2. The University of Texas Medical Branch, Galveston, Texas USA

Introduction: Incorrect positioning of the endotracheal tube (ETT) after emergent intubation can result in serious complications. The aim of this study was to investigate the occurrence of ETT malpositioning after emergency intubation in the hospital setting.

Methods: A five-year retrospective study was conducted using records of 1,081 patients admitted to the emergency department (ED) at a University-Hospital. The study investigated patients referred to the University Hospital after receiving primary care including endotracheal intubation (ETI) in a peripheral hospital. Within 30 minutes after admission, a chest radiograph (CXR) or computed tomography (CT)-scan was routinely performed to determine the tube-tip-carina relationship.

Results: Sixteen of the 1,081 patients died in the ED, of the surviving 1,065 patients, 346 (32.5%) were female and 719 (67.5%) male. The CXRs were not available for 53 patients (10.9%). Detailed data on ETT placement was available in 435 patients, 111 of these patients were referred to the University Hospital after receiving primary care at peripheral hospitals. Of those patients, 92 (82.9%) were correctly intubated and 19 (17.1%) were incorrectly intubated (<2 cm above the carina/endobronchially). No esophageal ETT placement occurred.

Conclusions: This study shows that ETT misplacements in emergency patients are still a serious problem; with an incidence of 17.1% in this study when intubated in a peripheral hospital. It was concluded that the skill level of the operator may be key in determining efficacy of ETI. Based on the findings, all efforts should be made to verify the tube position with immediate radiographic confirmation after admission to the ED.

Keywords: endotracheal tube; hospital; intubation; misplacement; radiology

Prehosp Disast Med 2009;24(2):s33

(R97) Baseline Survey of Process of Care among Stroke Patients at the University of the Philippines Philippine General HospitalScarlett Mia S. Tabumar, Cherie Grace G. Quingking
Philippine General Hospital, Manila, Philippines

Introduction: In the Philippines, the prevalence of stroke is 30% of hospital admissions. Definitions of consultation, management, and disposition of emergency department stroke patients is necessary in order to develop quality indicators for stroke patients.

Methods: The University of the Philippines Philippine General Hospital is the largest tertiary care hospital in the country with 45,000 emergency department visits per year.

Patients with an initial diagnosis of stroke from 01 June to 31 October 2008 were identified prospectively. A registry of stroke patients was implemented using the Epi Info 6, using random sampling.

Results: The study had a total population of 177. The incidence rate for stroke was 0.9% at the Acute Care Unit (ACU) of the emergency department. The mean age was 55 years. The stroke population was 57.1% male. Twenty-nine (14.4%) were diagnosed with cerebrovascular disease that was undifferentiated, 36.8% developed an infarction, and 48.9% had an intracranial bleed. Diagnoses were made clinically without Cranial Scan. Only 27% had a computed tomography (CT) scan during their stay in the emergency department (34/143). Therapy was supportive and no patient received thrombolytic therapy. Dispositions within 24 hours are were: 102 were admitted, 39 (22%) stayed in the ACU-Observation Unit; 10 (7%) went home against advice; seven (4%) were discharged, and 17 (9%) died. Length of stay was 1.5 days, 5.2% were admitted within 24 hours (the longest stay was 10 days). Stroke incidence in the young was 27%, and was more common among males, odds ratio = 0.63. The youngest was 19 years old.

Discussion: The University of the Philippines Philippine General Hospital sees a higher incidence of stroke in the young. Hemorrhagic strokes had a higher incidence than the ischemic type. There was low utilization of CT scans within 24 hours in the emergency department. Ideal management warrants a scan within 45 minutes of arrival to facilitate interventions. This delay in treatment impacts on acute-onset infarct wherein thrombolysis is beneficial. Given the international guidelines for stroke management, the processes-of-care explored in this study e.g., utilization of CT scan, treatment modalities (thrombolytics), and disposition, is below what is considered best practices.

Keywords: care; emergency health; hospital; Philippines; stroke

Prehosp Disast Med 2009;24(2):s33

(R98) Problems in Evaluating Mobile Clinic Activities Under the Medical Relief Program in the Earthquake-Affected Area in Mid-Java, Indonesia

Keiji Nakata

Nippon Medical School, Hiroshima City, Japan

Objective: To understand the difficulty in collecting information through evaluating mobile-clinic activities, outline problems in the evaluation method, and consider the necessity of a mapping information system, such as a global positioning system (GPS).

Methods: The entire evaluation activity process was reviewed and future tasks were outlined.

Results: For the evaluation activity, there were plans to conduct interviews with personnel of local health centers in Puskesmas, where the mobile-clinic activities had been performed before. In addition, locations that the Japan Disaster Relief (JDR) medical mobile team visited were involved in the evaluation. The presenters visited four locations in Puskesmas in the morning, and visited Trimulyo Village, Pdon, where the JDR medical team had operated in the past. As a result, it became clear that, since immediately after the earthquake, POSKO was established, and managed and coordinated the disaster relief activities. Thus, it was not possible to obtain information of acute disaster phase in Puskesmas. According to the report, the HUMA Team served in POSKO. However, stakeholders

in Puskesmas did not recognize that. Only one village leader remembered that JDR actually served there, so village leaders may be efficient information sources for such interviews. When a mobile-clinic is planned, it is necessary to visit the village repeatedly, and review records of another team's past visits. The exact position of the location must be recorded using GPS. It is almost impossible to perform an appropriate evaluation unless objectives and targets are identified before the mobile-clinic activity begins. Furthermore, if post-activity evaluation is required, it is essential to promote the exact methods and procedures in order to identify the place where services were provided.

Keywords: evaluations; Indonesia; medical relief; mobile clinics; research

Prehosp Disast Med 2009;24(2):s34

(R99) Development and Implementation of a Participatory Evaluation Method for Assessing Disaster Drill Performance

Mamata V. Kene,¹ Parveen Parmar,¹ John E. Arbo,² Stephanie Rosborough,¹ Satchit Balsari,² Robert B. Bristow,² Hilarie Cranmer¹

1. Brigham and Womens Hospital, Department of Emergency Medicine, Boston, Massachusetts USA
2. New York-Presbyterian Hospital, New York, New York USA

Background: Disaster response evaluation is novel in many developing countries. If thoughtfully evaluated, disaster drills are a means of identifying gaps in planning. Existing methodologies are difficult to use where the availability and training of evaluators is limited. Previously, a United States-based evaluation tool was found to be difficult to use in such a setting. A participatory drill evaluation tool was developed and tested in Mumbai.

Methods: A categorical and open-ended questionnaire was constructed based on five areas of disaster response: (1) command; (2) communication; (3) security; (4) resources; and (5) overall flow. Local input and previous evaluation tools also were used when constructing the questionnaire. All participants in a collaborative citywide disaster drill were asked to complete the tool, immediately after the drill.

Results: A total of 165 individuals (participants and dedicated evaluators) were asked about major systems areas such as security, communications, and command, and provided details in an open-ended follow-up. Evaluators and participants identified many of the same problem areas. The tool is flexible, can be adapted to local contexts and limited literacy, is thorough yet concise, amenable to descriptive or statistical key component analysis, and allows triangulation between groups and serial tracking.

Conclusions: Despite limited evaluator availability and training, this participatory, focused evaluation methodology was efficient and practical for identifying key areas of improvement. Multi-sectoral input, rapid response turnaround, and adaptability to diverse contexts make it a practical evaluation tool. Some differences in evaluators' and participants' responses may be due to experience, expertise, and participation rather than passive observation. Further use of this participatory evaluation may positively impact disaster response planning.

Keywords: disaster; disaster planning; evaluation; participatory; resource-constrained settings

Prehosp Disast Med 2009;24(2):s34

(R100) European Union Project: Identifying the Needs of Medical First Responders in Disasters

Stepan Vymetal; Chaim Rafalowski

Magen David Adom in Israel, Tel Aviv, Israel

The objective of the NMFRRDisaster project was to identify the areas in need for future research activities, prioritize them, determine a roadmap for future research activities targeted by the European Union. The project is under EU Framework program No. 7, security, coordination, and support action. The concept of this project was to join medical first responders with experts in order to identify the needs and available knowledge in five key areas of activity:

1. Methodology and technology used to train medical first responders for disasters;
2. Understanding the human impact of disasters on first responders;
3. Ethical and legal issues influencing the medical response to disasters;
4. Personal protective equipment used in chemical and biological incidents; and
5. Use of blood and blood products in disasters.

Members of the project consortium include:

Magen David Adom (Israel)—Coordinator
 Al-Quds Nutrition and Health Research Institute (Palestinian Administered Areas)
 AmbulanceZorg (the Netherlands)
 Charles University (Czech Republic)
 Center for Science, Society and Citizenship (Italy)
 Danish Red Cross (Denmark)
 Fundacion Rioja Salud (Spain)
 SAMUR Protection Civil, Madrid (Spain)
 Shield Group Inc. (Netherlands)
 SINGERIE S.r.l (Italy)

Grant Agreement No: 218057

Starting day: 01/05/2008

Project duration: 12 months

Detailed info: <http://www.mdais.com/316/4089.htm>

Keywords: blood; blood product; disasters; ethical and legal issues; European Union project; first responders; human impact; needs; personal protective equipment; security research; training

Prehosp Disast Med 2009;24(2):s34

(R101) Comparison of Three Methods to Decrease Cardiovascular Responses to Pin Application

Chhavi Papneja; Ashwin Udupa

AIMS Trauma Center, New Delhi, India

Introduction: The Mayfield skull pin head holder application is a cause of increased hemodynamic response in a craniotomy patient. We conducted a randomized prospective study to compare the efficacy of clonidine, pin site infiltration of local anesthetic (LA) and skull block in attenuating this hemodynamic response.

Methods: Thirty ASA grade patients requiring elective craniotomy (age 18–65) years were allocated randomly into a clonidine group, a LA pin site infiltration group, and a skull block group. Clonidine group patients were premedicated with Tab. Clonidine 2–3 µg/kg, 90 minutes prior to