

ity and mortality for many conditions, including road and birth trauma, and chronic and acute diseases. Recent assessments of the burden of surgical disease and the relative cost-effectiveness of essential surgical care have kindled international interest. Previous work suggests that 11% of the global burden of disease may be treated with surgery. Many humanitarian and non-governmental organizations provide surgical services. Although delivery of surgery by these organizations impacts the global burden of disease, the impact has yet to be formally evaluated and aggregated. Understanding the collective contribution made by the humanitarian community would further measure the “met need” for surgical services. Greater coordination between these organizations would identify the regions of greatest need and potentially provide primary data on regional surgical epidemiology and outcomes of care. This presentation will discuss the burden of surgical disease and the impact of surgical services delivered by humanitarian aid and disaster relief organizations may have on disability and premature death. The importance of surgical epidemiology and the tracking of data and outcomes also are considered.

Keywords: competencies; education; global health; surgery; training
Prehosp Disast Med 2009;24(2):s46–s47

Value of Cranial Computed Tomography in Adult Patients with Mild Head Injuries: A Prospective Study at the University of the Philippines Philippine General Hospital

Scarlett Mia S. Tabunara,¹ Fara Jane C. Sebastian²

1. Philippine General Hospital, Quezon City, Philippines
2. Philippine General Hospital, Manila, Philippines

A descriptive method was used in order to conduct a prospective study on the value of using computed tomography (CT) scans among adult patients (≥18 years old) treated at the University of the Philippines-Philippine General Hospital emergency department from January through December 2008. The patients who underwent CT scan presented with mild head injuries with a Glasgow Coma Scale (GCS) rating of 14–15.

Among the single clinical variables included, loss of consciousness had the highest percentage of a positive CT scan. A total of 83.3% of the patients with loss of consciousness showed significant findings on the CT scan related to the trauma. Other single variables studied did not yield any significant findings in CT scans such as nausea/vomiting, headache, physical injuries related to the trauma, and neurologic deficits related to the trauma. Based on the results of logistic regression, only loss of consciousness was significant based $p = 0.05$. Therefore, when a patient presents with loss of consciousness related to head trauma, a CT scan likely will yield a positive result. Thus, a high index of suspicion should be used.

Keywords: computed tomography; emergency medicine; head injury; loss of consciousness; Philippines

Prehosp Disast Med 2009;24(2):s47

Public Health Department Training of Emergency Medical Technicians for Bioterrorism and Public Health Emergencies: Results of a National Assessment

David S. Markenson; Michael Reilly

New York Medical College, Valhalla, New York USA

Introduction: The public health system has a specialized body of knowledge and expertise in bioterrorism and public health emergency management that can assist in the development and delivery of continuing medical education (CME) programs to meet the needs of emergency medical services (EMS) providers.

Methods: A nationally representative sample of the basic and paramedic EMS providers in the United States was surveyed to assess whether they had received training in weapons of mass destruction, bioterrorism, chemical terrorism, radiological terrorism, and/or public health emergencies, and how the training was provided.

Results: Local health departments provided little in the way of training in biologic, chemical, or radiological terrorism to responders (7.4%–14.9%). State health departments provided even less training (6.3%–17.3%) on all topics to EMS providers. Training provided by the health department in bioterrorism and public health emergency response was associated with responder comfort in responding to a bioterrorism event (OR = 2.74, 95% CI 2.68, 2.81).

Conclusions: Local and state public health agencies should work with the emergency medical services systems to develop and deliver training with an all-hazards approach to disasters and other public health emergencies.

Keywords: bioterrorism; emergency medical services; public health; training; weapons of mass destruction

Prehosp Disast Med 2009;24(2):s47

Poster Presentations—Emergency Medical Services

(N27) Impact of Trauma Volume on the Effectiveness of Computed Tomography of Patients with Head Trauma

Chao-Wen Chen;¹ Yue-Wen Chen;² Yun-ting Lou;¹

Liang-chi Kuo;¹ Hsing-lin Lin;¹ Wei-che Lee;¹

Yuan-Chia Cheng¹

1. Kaohsiung Medical University Hospital, Kaohsiung, Taiwan
2. Department of Industrial Engineering and Technology Management, Dayeh University, Chan-Hwa, Taiwan

Objective: The major purposes of this study were to: (1) evaluate the association between trauma volume and the positive rate of head computed tomography (CT) scans in patients with head trauma; and (2) determine the threshold of trauma volume for determining the decreased effectiveness of emergent head CT for head trauma patients.

Methods: In a 1,300-bed tertiary care hospital, data involving trauma patient volume, head trauma patient volume, the number of emergent head CTs, and the number of positive head CTs were collected on a monthly basis. The potential influential factor of quality of care performed by different physicians was measured by calculating their rate of missed head injuries. Comparison primarily was made between the trauma patient volume and the positive rate of HCTs.

Results: Data were obtained from January 2006 to December 2007. Of 20 eligible months, 25,549 trauma patients presented to the emergency department. A total of 5,168 (20.2%) sustained head trauma, and 3,336 head CTs were performed with a 29.1% positive rate of substantial head injuries. The mean rate of missed head injuries among different physicians was 4.8% (range: 3.6–5.7%, $p = 0.78$). The monthly data were analyzed and a moderate correlation between monthly trauma volume and the decrease in positive rate of head CTs was identified (Pearson $r = -0.511$, $p < 0.05$). By introducing different cut-point values of trauma volume, the threshold of trauma census in discriminating the significant decrease of positive head CTs was identified.

Conclusions: The findings imply that the head CT scans might have been misused in the overcrowded setting, despite the fact that there is a standard guideline justifying its use. This phenomenon also warrants future studies focusing on the quality of care indicators regarding unnecessary examinations and the overall cost-effectiveness analysis.

Keywords: computed tomography; head trauma; hospital; patient volume; trauma

Prehosp Disast Med 2009;24(2):s47–s48

(N28) Creation of a Baseline to Cope with Orotracheal Intubation

Hysbam Hadeif; Raphael Gable; Jean Claude Bartier
SAMU 67/ Hopitaux Universitaire de Strasbourg, Strasbourg, France

Since 2005, a regional baseline has been created in order to profile intubated patients in the prehospital emergency system of Strasbourg, a city with a population of 490,000 people. In this early, retrospective study, every time an orotracheal intubation was performed, the patient was entered into the system. The baseline indicates the identification of the patient; the purpose of the intubation (cardiac arrest, neurological indication, traumatic indication, etc.); the diameter of the tracheal tube; who performed the intubation; the number of attempts; the drug used for the intubation, induction, and sedation; the time of the intubation; the Cormack score; and the patient output after 24 hours. Since 2005, 3,580 patients have been entered into the system, providing a large amount of information. For instance, women represent 70% of intubated patients; at 17 hours, there is the highest rate of intubation; at 24 h women have much greater chance of surviving; and men were more likely to be involved in car crashes than women. This baseline can be helpful in managing the prehospital medical system.

Keywords: baseline; emergency medical services; France; orotracheal intubation; patient; prehospital

Prehosp Disast Med 2009;24(2):s48

(N29) Effect of Endotracheal Suctioning on Intracranial Pressure in Severe Head Injured Patients Admitted to the Neurosurgical Unit

Sakineh Gholamzadeh; Mostafah Javadi; Shirin Rahnama; B. Zeighami
Shiraz Medical University, Shiraz, Iran

Introduction: Endotracheal suctioning (ETS) is a routine nursing procedure used to decrease pulmonary complications; however, in patients with severe head injuries, it can

result in a sudden increase in intracranial pressure (ICP) and may put the patients at risk for further cerebral damage. The purpose of this study was to examine the effect of ETS on ICP in patients with head injuries.

Methods: Twenty-one patients with acute, severe head injury (Glasgow Coma Score ≤ 8 , range 4–8) were studied. The ETS procedure consisted of administration of 16 breaths at 135% of the patient's tidal volume, 100% FIO₂ before and after suctioning with a standard catheter (16 French) with the application of negative pressure for a duration between 10–15 seconds. Each subject received four passes of insertion of standardized suction catheter. A repeated measure model for ANOVA was used to examine the changes in mean ICP from one minute before suctioning to the ICP, during the first, second, third, and fourth passes of catheter insertion.

Results: Intracranial pressure significantly increased during suctioning.

Keywords: emergency health; endotracheal suctioning; head injury; intracranial pressure; patients

Prehosp Disast Med 2009;24(2):s48

(N30) Patient Comfort during Prehospital Care

Björn-Ove Suserud;¹ Anders Jonsson;¹ Magnus Hagiwara;² Anna Backlund³

1. University College of Borås, Borås, Sweden
2. Southern Älvsborg Hospital, Ulricehamn, Sweden
3. Southern Älvsborg Hospital, Borås, Sweden

Introduction: Feelings of comfort, warmth, and safety, and the preservation of dignity are important for all prehospital patients. The study deals with the well-being and comfort of patients during transport to the emergency department. In the Swedish ambulance service, all patients transported by ambulance are provided with blankets. One task for the ambulance staff is to prevent any negative experiences or feelings of discomfort, insecurity, and risk for hypothermia. Does the new equipment (the rescue bag) increase comfort? Does the patient feel any difference between the new equipment and the traditional blankets? The aim of this study was to examine whether new equipment can increase the well-being/comfort of patients.

Methods: The pilot study investigated the ambulance patients' view of comfort. The quantitative study was performed in a test group ($n = 46$) and control group ($n = 48$) of randomly selected ambulance missions. For the intervention in the test group, new equipment (rescue bag) was used. Ordinary ambulance blankets were used for the control group.

Results: Patients were more satisfied with the rescue bag than the ordinary blankets.

Conclusions: The rescue bag offers more comfort and is a safer way of transporting patients via ambulance.

Keywords: ambulance transport; blanket; comfort; hypothermia; rescue bag

Prehosp Disast Med 2009;24(2):s49–s58

(N31) A New Way of Decreasing the Damages due to Paramedics Driving

Hysbam Hadeif; Jean Claude Bartier; Thierry Pelaccia
SAMU 67/ Hopitaux Universitaire de Strasbourg, Strasbourg, France

Accidents due to emergency vehicles cause numerous casualties and material damages, resulting in a significant