focused on teaching acute lifesaving interventions. The Respi-Heart device was applied to the animal and used to monitor vital parameters throughout the training session. A total of 22 animals were included in the study. The data gathered from Respiheart were compared to results from a pulse oximeter and ventilator connected to the animal. Statistical comparison were performed using linear regression and Bland-Altman plots to analyze agreement of methods.

Results: The heart rate as measured by the pulse oximeter was correlated to the rate reported by RespiHeart. The R^2 was 0.9946 with a p-value of less than 0.0001. Bland-Altman analysis of heart rate revealed a bias of -0.06127 (95% CI -2.219-2.097). The respiratory rate as set on the ventilator was correlated to the rate reported by RespiHeart. The R^2 was 0.9978 with a p-value of less than 0.0001. Bland-Altman analysis of respiratory rate revealed a bias of -0.008584 (95% CI -0.42-0.4028).

Conclusion: The results obtained in this study demonstrate a high degree of correlation between the data obtained from RespiHeart and the pulse oximeter and ventilator. This renders RespiHeart as a promising device for prehospital use.

Alert Function of Emergency Medical Information System: Securing Sufficient Time and Medical Resources in Mass Casualty Incidents

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Study/Objective: To evaluate the efficacy of alert function for mass casualty incidents in which prompt information can be provided from fire departments to hospitals.

Background: In mass casualty incidents, securing sufficient time and resources for medical action/response is key. In 2003, Emergency Medical Information System in Hyogo Prefecture (EMISHP) was innovated with a special alert function, through which fire departments can simultaneously alert medical institutions about mass casualty incidents in local man-made disasters.

Methods: Retrospective analysis of mass casualty incidents/disasters in which the alert function was activated from 2003 to 2015. Number of casualties, destination hospitals to which the injured were transported, duration from emergency call to activation of alert function (activation time), time of search and rescue activity at the scene (S/R time), etc., were evaluated.

Results: In 13 years, the alert function was activated in 143 mass casualty incidents. These included motor vehicle accidents, fire/explosion, chemical spill, etc. The casualty count ranged from 0 to 662 (median value = 5). Activation time ranged from 1 to 89 minutes (median value = 12). S/R time ranged from 13 minutes to 23 hours 23 minutes (median value = 70 minutes). The number of destination hospitals ranged from 0 to 54 (median value = 3). In all cases, Emergency Medical Coordinators (EMCs) at Hyogo Emergency Medical Center, a principal hub hospital for disasters, directly or indirectly assisted, by providing prompt first aid at the hospitals, dispatching doctor-attending cars or helicopters and DMATs (Disaster Medical Assistance Teams) to the scene if requested, and coordinating activities across medical teams and fire departments.

Conclusion: By sharing up-to-date information with hospitals and fire departments, the alert function of EMISHP, along with the EMCs' coordination, enables smoother patient transport to hospitals and improved medical activities at the scene. This alert function contributes much in securing sufficient time and resources for medical response in mass casualty incidents.

So You Need to Suddenly Evacuate Hundreds of Hospital Patients - Without Power

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Study/Objective: This case study will discuss events during, after, and lessons learned from one of the largest 'entire' hospital evacuations to date in United States History.

Background: Between 1971 and 1999 there were about 275 reported hospital incidents involving hospital evacuations. Of these, a majority occurred because of an event that originated within the hospital. Whether natural disaster or not, hospitals are an easy target to become victims of sudden catastrophic events. In the summer of 2016, a lightning strike and fire forced the evacuation of a multi-story hospital of hundreds of patients without power.

Methods: After lightning struck a Florida Hospital, a fire then ensued that destroyed both the power and the backup power for the entire hospital, despite the fire itself spreading. This led to more than 70 ambulances from over 175 miles away, three ambulance Mass Casualty Incident (MCI) buses, multiple engine companies, emergency management response, a couple EMS physicians, and multiple sheriff's units evacuating over 200 patients, both ambulatory and Intensive Care Unit (ICU) intubated and ventilated patients, to various hospitals in the region.

Results: No deaths were reported, and no further injuries initially reported among rescuers during the approximately six hour operation.

Conclusion: While a large number of various agencies and hospitals had an impressively successful outcome, many lessons can be learned for other facilities as well as improvements for an even better response in the future, and hopefully disaster mitigation.

EMS Preparedness to Arson Terror

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Study/Objective: Research characteristics of arson terror and the differences between wildfires that occur naturally and those by arson, to learn the necessary preparedness concepts and reduce response times while improving response quality to such events.