

(C, lights and sirens) for 31% of thrombolized patients during the 1st period, and for 80% during the 2nd period. The mean time ambulance personnel spent at the home was 20 minutes during both periods. In-hospital door-to-needle time was < 60 minutes in 11% of patients during the 1st period, and in 56% during the 2nd period. Ambulance personnel treated 1,094 stroke patients during the study. All procedures were performed and documented correctly in 10% of visits. The most frequent deviation from guidelines was under-reported values of blood glucose. In 44.7% of patients, an ECG was performed, which is not required by guidelines.

Conclusions: Acute stroke management improved significantly. Adherence to recently developed stroke guidelines in the ambulance services must be improved.

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(P2-6) Evaluation of Air Rescue Missions Using a Helicopter — Analysis from a German Helicopter Base

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Introduction: In Germany, emergency medical care is provided by ambulances. Emergency physicians also are used in the German rescue system to ensure primary care. Additionally, rescue helicopters are insertable. The rescue helicopter in Dresden covers the city of Dresden and its surrounding areas, with 517,000 inhabitants and distances up to 70 km. The goal of this study was to evaluate emergency cases in helicopter rescue missions according to primary diagnoses and severity of the mission on the basis of NACA Score.

Methods: Data from all emergencies using the German Air Rescue (DRF-Luftrettung) Helicopter Base Dresden were recorded on a standardized protocol and transferred to a central computer database (MEDAT®). Data from all emergency cases between January 2006 and July 2010 were analyzed.

Results: There was a total of 6,310 emergencies during the study period, with a significant increase over time. The helicopter was on-scene within 10.9 minutes. In total, 54% of the patients were male. The rate of female patients > 80 years of age was 64.5%. A total of 63.4% of patients suffered life-threatening injuries or dysfunctions and a NACA score ≥ 4 . A total of 7.6% of patients were classified in NACA 6 or 7. The most common cause for rescue missions was an acute coronary syndrome (20.4%). Other frequent diagnoses included brain injury (13.3%), unconsciousness (12.5%), stroke (12.9%), general cerebral convulsion (7.9%), polytrauma (6.4%), and cardiac arrest (5.0%). The rate of prehospital endotracheal intubation was 15.1%. In 1.1% of patients, a thoracic drainage was established.

Conclusions: In recent years the number of helicopter rescue missions increased, along with injury severity. The total number of patients with NACA 6 and 7 was extremely high, and demonstrates the need for an efficient emergency medical rescue system that includes helicopters.

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(P2-7) Patient Distribution during a Mass-Casualty Incident: The 25 February 2009 Turkish Airlines Crash in Amsterdam

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Background: Difficulties have been reported in patient distribution during mass-casualty incidents (MCIs). In this retrospective, descriptive study, the regional Patient Distribution Protocol (PDP) and the management of the patient distribution after the Turkish Airlines airplane crash on 25 February 2009 near Schiphol Airport in Amsterdam were analyzed.

Methods: Analysis of the of PDP involving the 126 surviving victims of the crash, by collecting data on Medical Treatment Capacity (MTC), number of patients received per hospital, triage classification, Injury Severity Scale (ISS) score, secondary transfers, distance from the crash site, and critical mortality rate.

Results: The PDP holds two inconsistent definitions of MTC. The PDP was not followed. Four hospitals received 133–213% of their MTC, and five hospitals received one patient. There were 14 receiving hospitals (distance from crash: 5.8–53.5 km); three hospitals within 20 km of the crash did not receive any patients. Major trauma centers received 89% of the “critical” casualties and 92% of the casualties with ISS score ≥ 16 . They also received 10% of “minor” casualties and 29% of casualties with ISS score < 8. Only three patients were secondarily transferred, and no casualties died in, or on the way to, the hospital (critical mortality rate = 0%).

Conclusions: Patient distribution was effective, as secondary transfers were low, and the critical mortality rate was zero. The regional PDP could not be followed during this MCI. Uneven casualty distribution was seen in the hospitals. The regional PDP is inconsistent, and should be updated in a new cooperation between Emergency Services, surrounding hospitals and vSchiphol Airport, a high risk area, for which area-specific PDPs must be designed.

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(P2-8) Analysis of the Performance of Emergency Medical Services Management of 51 Mass-Casualty Incidents in Israel

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Introduction: Between February 2002 and January 2004, a total of 51 terrorism-related mass-casualty incidents (MCIs) occurred in Israel.

Objective: The objective of this study was to analyze data provided in After Action Reports (AAR) held by Magen David Adom (MDA), after each MCI.

Methods: Information relating to the type of MCI, location, number of ambulances dispatched in five-minute intervals from time of notification, and number of casualties evacuated by

urgency in five-minute intervals from the start of the incident was analyzed.

Results: There were 34 MCIs in 2002, 15 in 2003, and two in 2004. More MCIs (24%) occurred on Wednesdays, and more MCIs occurred during the 05:30–08:59 (18%), 12:00–14:59 (20%), and 17:00–19:59 (24%) time slots. More MCIs occurred in the Jerusalem (24%) area, followed by Tel Aviv (16%). Twenty-six percent of the MCIs resulted from explosions in open areas, 22% in buses, 20% from shootings, and 28% from explosions in semi-closed and closed areas. The mean dispatch time of the first ambulance after notification was 48 seconds. An average of 14.25 ambulances were dispatched in the first five minutes, followed by eight, three, and three in the five-minute slots following. An ANOVA indicated a significant difference in dispatch times by towns/cities ($p = 0.05$). The average arrival of the first ambulance was 6.4 minutes, and evacuation of the first urgent casualty was 13.6 minutes, the last evacuation was 26.5 minutes after arrival. More urgent casualties (45%) compared to 20% non-urgent were evacuated in first 15 minutes; the majority of non-urgent victims (79%) were evacuated after 16 minutes. The mean number of dispatched ambulances ranged from 37.9 to 26 in urban versus rural areas, respectively. The number of ambulances actually used for evacuation in urban and rural areas was 55% and 44%, respectively.

Conclusions: Information analyzed from AAR is useful for improving Standard Operating Procedures and structuring continuing education interventions for MCIs.

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(P2-9) Patient Allocation to Hospitals During Mass-Casualty Incidents

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Due to the limited resources of specialized hospital departments, the allocation of patients to different hospitals according to the severity of their condition is an extraordinarily complex and time-critical problem. The emergency capacity was determined for all medical centers ($n = 135$) in the State of Hessen, for patients of the various hospitalization triage categories (red, yellow, green), for normal working hours, for weekends and nights, including logistic specifications of a potential helicopter landing. This data was entered into a state register. Using the data from the “acute-care-register”, a Ticket System was developed that allows the operations management to assign patients according to the severity of their condition, urgency and necessary specialization (e.g., neurosurgery, ophthalmology, pediatrics) to a hospital without exceeding the admission and/or treatment capacity of the hospital/facility. During a non-critical period, the order of allocations depending on the distance of the clinic to the site of the emergency is planned in advance so that no further modifications are necessary during the acute intervention phase of an emergency response. Additional notification of hospital capacities for severe casualties provided during the emergency response can be easily and immediately supplemented. Due to the relatively low frequency of such emergency responses, a cost-effective concept

that is easily adaptable to the respective fields of application has been discovered. The system is a sticker set customized for the respective rescue teams. The sets will be carried permanently in the rescue equipment by the organization manager of the rescue service team. The equipment is not dependent on electronic components. The cost per sticker set is approximately US\$50. Keeping track of the patient allocations is assured.

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(P2-10) Emergency Medical Services Workers' Willingness to Work during Pandemic Influenza

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Background: Emergency medicine services (EMS) will play a key role in any response to a flu epidemic. In order to devise an effective preparedness plan for coping with pandemic, it is necessary to comprehend the factors affecting the willingness of EMS workers to respond during an outbreak.

Aims: This study aims to: (1) examine the willingness of the workers of Israeli EMS (Magen David Adom (MDA)) to come to work during a pandemic flu; and (2) identify the factors that will increase the willingness of workers to come to work and the obstacles that will keep them from working during a flu pandemic.

Methods: Between November 2009 and January 2010, a representative sample of MDA workers in Israel were given questionnaires asking about their knowledge and attitudes in regard to pandemic flu, and concerning factors that may influence their willingness to come to work. Data analysis included descriptive statistics, central and dispersion measures, analyzes of variance, and an exploratory factor analysis.

Results: The study population included 365 people (290 men and 75 women), with 84% aged 20–49 years. Of the respondents, 92% expressed willingness to come to work during a flu pandemic, even if they were asked and not obligated to report to work. An increase in willingness to come to work was found to be associated with the significance of the role of the workers, the guidance that they receive from the organization, their trust in the system, their knowledge, and their feeling of being protected.

Conclusion: Workers' perception of the significance of their role and their trust in the system were found to be central factors in determining workers willingness to come to work during a time of an emergency.

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(P2-11) Teletransmission of 12-Lead ECG in Warsaw Ambulance Service — Analysis of the First Months of the Operation

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Background: Since September 2009, the Warsaw Ambulance Service (WAS) has enabled 23 ambulances to carry out a 12-lead