### Immediate Medical Response for a Mass-Casualty Incident in Japan—Lessons Learned from the Akihabara Stabbing Spree in 2008

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**Purpose:** The purpose of this study was to describe the medical responses to a mass-casualty incident (MCI) caused by a stabbing spree in Japan. The Akihabara stabbing spree in 2008 left seven people dead and 10 wounded.

**Methods:** On 08 June 2008, a man hit pedestrians with a truck and then stabbed people using a survival knife on a street in Tokyo's Akihabara district. The Tokyo Disaster Medical Assistance Team (DMAT), supported the Tokyo Fire Department (TFD) as a medical advisor, was dispatched to the scene.

**Results:** The issues concerning the MCI include:

1. A Medical Command System is required. The TFD medical advisor, who works for the medical control, is eligible to be a medical incident commander for the Tokyo DMAT;
2. The type of incident is not clear at the onset. Safety should be guaranteed by information and personal protective equipment (PPE) like bulletproof vests;
3. Onlookers should stand clear and adequate zoning by police is necessary;
4. Volunteers performed basic life support. Some of the bystanders seemed to be healthcare providers. However, it was unclear who was responsible for them. It is necessary to make rules for volunteers who wish to assist with the medical activities; and
5. The communications system did not function well. Radios are required for the DMAT.

**Conclusions:** During a MCI caused by a stabbing spree, safety can be assured by providing information and PPE, adequate zoning, and rules for volunteers.

**Keywords:** Disaster Medical Assistance Team; Japan; lessons learned; mass-casualty incident; medical response; stabbing

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### Storm Surge: Hurricane Ike, What Can We Learn to Prepare for Future Natural Disasters?

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**Introduction:** On 13 September 2008, Hurricane Ike made landfall in Texas, causing billions of dollars of damage and closing most emergency departments. As expected, significant increases in patient volume were experienced, consisting of increased specific complaints.

**Methods:** An observational, retrospective study at an academic Level-1 Trauma Center was conducted. Data were obtained from the Electronic Medical Record and patient tracking software. The patient's time of arrival, presenting complaint, and final diagnosis were compiled. Numbers were compared to data from the previous year.

**Results:** During the 72 hours following landfall, 462 patients presented to the emergency department: 97 in the first 26 hours, and 365 in remaining 46 hours. For three hours before landfall and nine hours after (12 am to 12 pm on Saturday) only 19 patients presented, a 66% reduction. The patient volume then exploded, with 124 patients in the next 12 hours peaking at 18 patients/hour, a 50% increase in patient volume. On Day 3, the volume remained 68% above baseline. Patient presentation peaks consisted of pre-storm dialysis patients, carbon monoxide exposures, post-storm motor vehicle crashes, and storm clean-up injuries. Troughs corresponded with the arrival of rain and winds and daily curfews.

**Conclusions:** Today's advancing technology allows us to better predict disasters caused by natural hazards such as hurricanes. In the emergency department, forewarning also allows us to better prepare for the needs of those affected by a natural disaster, but it also presents its own problems.

**Keywords:** disaster planning; emergency department; Hurricane Ike; patient presentation; surge capacity

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## *Oral Presentations—International Law and Ethics*

### Terrorism-Related Injuries and Ethics—What Does the Evidence Show?

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**Background:** Trauma is an event that occurs "out of the blue" and causes various emotions and feelings. Injured children express more extreme emotions and are more sensitive. Do these emotions influence the decisions made by medical personnel regarding terrorism-related casualties?

**Objective:** The objective of this study was to assess the differences in treatment and hospitalization during mass-casualty incidents (MCIs) for: (1) children compared to adults; and (2) MCIs caused by explosions compared to firearm casualties.

**Methods:** Terrorism-related casualties from 10 trauma centers included in the Israel Trauma Registry, which includes patients who were hospitalized, transferred or who died in the emergency department from October 2000 to December 2005.

**Results:** Of a total 2,425 terrorism-related casualties, 53% had an Injury Severity Scale (ISS) score of ≥16 and who were operated on during the first two hours after the attack. Among those with ISS scores 1–14, children (ages 0–12 years) were more likely than adults (ages 23–59 years) to be admitted to the intensive care unit (19% and 9%), respectively. Among patients with ISS scores ≥16, more children were admitted to the ICU than adults, (72% and 64%, respectively). Among patients with ISS scores 1-8, 46% of children were hospitalized for one day compared to 22% of adults. In-hospitality mortality among severe terrorism-related injuries (ISS ≥16) was 7% for children and 20% for adults.