passengers aboard suffered fire in one engine. Both events ended without severely injured patients.

**Conclusions:** The continuous training program diminished the consequences following a disaster. Adequate coordination of the planned operations and continuous education proved to be the best way to face the effects of a disaster.

## 095.
## Medical Support for Space Shuttle Operations: The Role of Emergency Medicine

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Manned space flight operations (MSFO) are ripe with the potential for disaster. The United States National Aeronautics and Space Administration (NASA) and the Division of Emergency Medicine at the University of Florida (UF) have created a unique program to provide medical coverage in the event of MSFO contingencies. Participants are recruited from emergency medicine, anesthesia, and the surgical specialties, and are required to complete a one-day training course at the NASA John F. Kennedy Space Center prior to deployment. Trainees learn about space physiology, spacecraft hardware, and aerospace toxicology with special attention to the needs of astronauts and rescue crew. Other program elements include physician recruitment, certification, team configuration, and logistical support. Opportunities exist within the program to interact with NASA crew surgeons and international space medicine physicians, to participate in simulated contingency exercises, and to achieve NASA Flight Surgeon certification. Since 1988, UF teams have attended 63 launch and landing opportunities of the United States Space Transportation System (STS–Space Shuttle). No operational incidents have occurred necessitating the mobilization of UF personnel. The NASA-UF program represents a unique application of the principles of emergency and disaster care.

## 016.
## An Experimental Study of Aeromedical Evacuation by Helicopter and Fixed-Wing Airplane of Japanese Ground, Self-Defense Forces

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In the case of big disaster and catastrophe, the Japanese Ground Self-Defence Forces(JGSDF) usually has been asked to help with rescue and evacuations services under the Disaster Relief Act in Japan. Also, JGSDF occasionally has transported many emergency, critical patients from isolated islands or depopulated areas to well-equipped, big hospitals. But JGSDF has no airplanes and no helicopters that are specially fitted with any equipment for use in emergency medical services (EMS).

Recently, the government and people have requested that the JGSDF participate much more with peaceful purposes. So, the medical school of JGSDF has begun experimental studies of aeromedical evacuation using aircraft, with both helicopters and fixed-wing airplanes which are provided with some equipments for the EMS.

Studies have included the effects of monitoring and treatments used with attached equipments, such transmitting the electrocardiogram to the base and evaluation with physiological in men.

The results of these studies will be used for the dispatch of JGSDF using helicopters and fixed-wing airplanes in the near future.

## 123.
## Computer Program to Compute Different Trauma Scores

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Various considerations make it desirable that the severity of accident injuries can be mutually compared. As described by Draaisma, these scores are used for a number of purposes: 1) Evaluation of trauma care; 2) Evaluation of specific therapeutic measures; 3) Triage or sorting of casualties in the field; 4) Making clinical decisions; 5) Prognosis of the individual patient; 6) Organization of the reception and treatment of casualties; 7) Recognition of changes in the epidemiology of injuries and/or deaths resulting from trauma; and 8) budgeting of costs.

A computer program has been developed for the calculation of each of these scores. This program works on personal computers with a MS-DOS operating system. It consists of the following parts:

A. Input the data of a patient.
B. Read components on the screen.
C. Records alterations.
D. Calculations of the trauma scores.
E. Sort the data for names.
F. Sort the data for age.
G. Sort the data for hospital numbers.
H. Sort the data for trauma mechanism.
I. Sort the data for trauma scores.
J. Sort the data for a specific injury.

The output consists of 26 variables:

1. Name
2. First name
3. Birth date
4. Location (emergency department)
5. Hospital number
6. Date of accident
7. Blunt/Penetrating injury

8. Respiratory rate
9. Systolic blood pressure
10. GCS* E-score
11. GCS* M-score
12. GCS* V-score

*Glasgow Coma Scale score

When it is necessary to make a choice, a help screen shows automatically the possibilities. Some help screens bring the users to the exact injuries by walking them through a decision tree.

After finishing the input, three screens will be shown:

1) All the data for the patient with the possibility to change one or more items.

2) AIS-codes; and

3) Calculated trauma scores, Glasgow Coma Scale scores, T-RTS, RTS, ISS, TRISS, and ASCOT. There will be a demonstration of this program for interested colleagues.

## 107.
## Forensic Expertise of Victims of an Electric Power Station Incident

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On 10 October 1994 at 10:51 hours, a 2,000 $m^3$ drainage condensation tank split at a seam. The 5 m high wave (temperature = 80–90° C) swept over two shops and a pedestrian crossing. One of them was completely destroyed. There were 25 victims: 21 died: 17 males and 4 females, aged 20–60 years. Of these victims, a man and a woman just were passing by, while all the others were at their place of work. All victims were taken by bus to the nearest hospital where they were given first aid. Reanimation ambulances took the victims to the regional hospital where three were hospitalized. The rest were transported to specialized clinics for burns: 12 to Sofia and three to Plovdiv. Six of the victims with 100% burns, both inhaled and ingested hot water and, with mechanical traumas localized in the head, thorax, and spinal column, died at the site of the accident. Five victims with 97–100% burns died within three days of the incident, and the rest who had 70–80% burns lived up to 21 days. All of them had inhaled and ingested hot water and had a severe thermal shock.

Investigation of changes in the different groups, studied by optical microscopy, has enriched data about the early stages of shock. In the group of victims who died within 21 days, evidence of proliferative shock stage was found. Those who survived the accident (30% burns) were categorized as having suffered a battery with health disturbance and temporally endangering of life in accordance with the Bulgarian Penal Code. From an organizational and forensic point of view, the transportation of victims who had inhaled and ingested hot water to the specialized clinics was inexpedient and made the treatment unduly expensive.



https://doi.org/10.1017/S1049023X00500983 Published online by Cambridge University Press