

includes three MCQs to reflect the Glasgow Coma Scale (GCS) and two to address the cardio-respiratory status (CRS). The latter two were modified after the CR study. MCQs were phrased in lay terms and presented in the native language. Consistency, reliability, and internal validity were assessed through redundancy and cross-interviewing. Hospital records were used for validity testing in CR.

**Results:** There were 71 accounts of specific victims in CR and 108 in Turkey. The GCS MCQ answer rates were high and similar in both studies (46/71, 69/108) and all, with one exception, were internally consistent. Inter-respondent consistency also was high and scores in CR correlated well with hospital records. The CRS MCQ answer rate was lower and erratic in CR and did not improve in the T study despite modification.

**Conclusion:** The use of retrospective MCQs to assess GCS for disaster victims appears feasible and reliable. Further validity testing and improved CRS MCQs is required before such a score can be used more definitely. However, it is believed that such methodology may prove to be of considerable value in the assessment of disaster medical response.

### 331

#### Royal Air Force Aid to the British Community

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**Objective:** To outline assistance afforded by the Royal Air Force (RAF) to the British community.

#### Headings:

Search and Rescue/Mountain Rescue  
Aeromedical Evacuation  
Support at Major Disasters, e.g., Zeebrugge, Lockerbie and Kegworth  
Aviation Pathology  
Support to BASICS  
Support at Mass Gathering Events, e.g., airshows  
Post-Traumatic Staff Debriefing Support  
Ambulance Service Support  
Potential Concept: Trauma Centers plus helicopter support

### 332

#### Royal Air Force Search and Rescue (SAR): Recent Changes

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**Objective:** To present recent changes to the Royal Air Force (RAF) Search and Rescue Organization.

#### Headings:

Change in Aircraft Type

Location of SAR Units  
Operational Capability  
Update of Medical Equipment  
Update of Training for Winchmen

### 334

#### The Potential Impact of Medical Control on Resource Utilization of Air Medical Services for Adult, Out-of-Hospital Cardiac Arrest

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**Objective:** To determine the usefulness of on-line (direct) medical control in the resource utilization of air medical services in responding to adult cardiac-arrest patients in the pre-hospital setting.

**Methods:** Retrospective chart review and prospective organizational analysis was conducted over a one-year period.

**Results:** Adult cardiac-arrest patients accounted for a small percentage (2%) of all air medical flights. There were no survivors. On-line [direct] medical control, when obtained, provided in-the-field death pronouncement, and these patients were not transported by air. There were no significant cost-savings to the EMS system by non-transport, as fixed costs are high (93%), but resource availability can be improved. There were organizational incentives to transport, including psychological, safety, and cultural factors, but no direct financial incentives on air medical crew members.

**Conclusion:** Air medical resource utilization can be made more efficient by judicious non-transport of adult, out-of-hospital, cardiac-arrest victims.

### 335

#### Emergency Air Medical Transport in Italy

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The Protezione Civile (Italian governmental department which deals with problems concerning disasters and emergencies) coordinates the emergency serial medical transport in collaboration with the Italian Air Force (32° formation). By law, it must employ medical staff and nurses affiliated with the hospital wards requiring the transport of patients, or those that hospitalize critically ill or injured patients. In addition, hospital wards supply all the medical equipment, while the Italian Air Force supplies an airplane (Falcon 50 or DC-9) with one or more stretchers inside. This joint work makes it possible to transport critically ill patients who require treatment in specialty centers in Italy and abroad, as well as assisting Italian citizens involved in disasters outside of Italian territory.

At the 8th World Congress on Emergency and Disaster Medicine, Ancona University's Department of Emergency Medicine will present its experience in emergency air medical

transports. The purpose of this presentation is to highlight the difficulties involved in rapid preparation of an airplane usually not utilized for medical transport.

### 336

#### Correlation of RAPS and RTS in Rotor-Wing Air Medical Transport

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**Introduction:** The revised Acute Physiology Score (RAPS) has been applied to patients transported by air, but not correlated with known indices.

**Objective:** To determine the correlation between the RAPS and Revised Trauma Score (RTS), a standard for evaluation of the trauma victim. Correlations between RAPS and RTS in patients with non-trauma illnesses also were investigated.

**Methods:** Retrospective evaluation of 845 consecutive patients transported by helicopter was conducted. Demographics, origin of transport, nature of illness, RTS, and RAPS were recorded. RTS vs RAPS scores were graphed using the sunflower technique, and correlation calculated using Pearson correlation coefficients (PCC). The *p*-value was set at .05.

**Results:** Sunflower plots revealed wide ranges of RAPS at like RTS values in less severe patients for all subgroups. PCC analysis revealed:

	N	PCC	<i>p</i> -value
Overall	845	-0.90	.0001
Prehospital trauma	276	-0.93	.0001
Prehospital medical	123	-0.88	.0001
Interfacility trauma	95	-0.49	.0001
Interfacility medical	351	-0.85	.0001

**Conclusions:** The RTS and RAPS scores generally exhibit good, significant correlation. The wide range of RAPS scores at like RTS values suggests that RAPS may be a more sensitive indicator of physiologic status in patients transported by air.

### 337

#### Response to Major Air Disasters in Shetland, United Kingdom

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Two recent air disasters in Shetland [UK] demonstrated that the unpredictability of the type of incident, available resources, and condition of survivors mandate flexible contingency plans. This need is demonstrated by comparing the two incidents.

On 31 July 1979, a Dan-Air HS748 crashed into the sea. Survivors were rescued by small boats and helicopters, and were examined by a local general practitioner at the airport terminal. Most had minor injuries. More could have survived, but helicopter rotor downdraft pushed some under the water. Deficits in airport disaster plans revealed by this experience were subsequently corrected.

On 6 November 1986, a Chinook helicopter plunged into the sea. Two victims were rescued by a Coast Guard helicopter. Operations were limited to recovery of bodies, identification, and certification of death. The revised disaster plan encouraged optimal resource mobilization and a predictable sequence of events.

Despite geographical isolation and limited resources, response to air disasters in Shetland can be extremely efficient. Multidisciplinary disaster planning, involving utilization of fixed-wing and rotor-wing aircraft, small boats, and local public service and medical resources, helps to ensure prompt and efficient care of victims.

### 340

#### SAMU Mondial

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The SAMU Mondial is the coordinating body of the international activities of the French SAMU. It allows the mobilization of multidisciplinary teams from the regional and departmental SAMU network. The SAMU Mondial can be activated by the Emergency Unit of the Ministry of Foreign Affairs in cases of natural or technological disasters and in cases of social unrest, especially civil war. Specialists, medical field teams, or reinforcements for the health and sanitation structures of the affected country can be placed in the field. An important logistic infrastructure, including mobile operation units, is at its disposal.

SAMU Mondial has been in action on numerous occasions, e.g., the earthquakes in Mexico and El Salvador, a volcanic eruption in Colombia, and civil wars in Rwanda and Chad.

### 342

#### Earth Summit '92 at Rio de Janeiro: The Medical Assistance

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The information, experience, and knowledge imparted during the 1992 Earth Summit, under the guidance of the World Health Organization, Brazil's federal government, and the city of Rio de Janeiro government, served as an organized,