

the test of reality, and find weak points requiring improvement. Principal data compiled are as follows: nine standard ambulances, two Mobile Intensive Care Units, 26 rescuers (staff and volunteers). MDA Region Managers served as incident commanders in 14 incidents, and paramedics in the remaining seven.

Average timetable for incidents covered:

Time to arrival of first ambulance:	7.5 minutes.
Time to assembly of entire team:	29.5 minutes.
Time from arrival to first evacuation:	7 minutes.
Average evacuation time to hospital:	11.5 minutes.
Completion of treatment and evacuation:	44 minutes from call.

Distribution of casualty evacuation:

No. of Hospitals	No. of Events
4	3
3	5
2	3
1	7

The vast differences in cause, location, and type severity of casualties mean that this model understanding of MDA activity of events, number and enables better overall preparedness in future.

007.

Terrorism and Heroism: The Bombing of the World Trade Center—An Inside Look at the Emergency Medical Response

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Incident Overview: The bombing of the World Trade Center occurred on a work day at 12:18 hours on 26 February 1993. The complex of seven commercial, high-rise buildings, was fully occupied and contained approximately 150,000 people. The bombing resulted in a fire, major subterranean structural collapse of all five levels of the parking garage and the lobby of the Vista Hotel, and resulted in 1,042 patients.

Objective: The response and operation will be explored in an effort to illustrate the details of a major medical and rescue disaster and to share key operational points and lessons learned. The goal is to demonstrate the need for major disaster planning within the medical community.

- 1) New York City medical disaster management program, Incident Command System, and World Trade Center preplanning;
- 2) Below ground obstacles and rescue;
- 3) Evacuation of those trapped in the towers;
- 4) Medical command and control, mutual aid, triage, casualty collection/victim treatment, and hospital deployment; and
- 5) Continued 9-1-1 service to the unaffected community, and major mutual-aid.

Summary: This incident officially brought terrorism to the

United States. America no longer can feel safe with an attitude that "it will never happen here"....it has. This attitude must be shared with and felt by the world community. It is incumbent directly upon the emergency and medical community to plan ahead to ensure that they are at their fullest capacity to confront major disasters.

103.

Disaster Victim Identification following Tel Aviv Bombing

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Disaster Victim Identification is a multi-faceted operation that must be well-coordinated. Following the 19 October 1994 bomb explosion aboard a Tel Aviv bus, an information bureau was established as a result of cooperation between the Israel Police and the Tel Aviv Municipality. As soon as names of hospitalized victims were established, they were made known to the Information Bureau and to DVI personnel in the Institute of Forensic Medicine which served as the morgue for the operation. Persons calling the Information Bureau were directed either to hospital Personal/Missing Persons Unit located in a building 100 meters from the morgue. There, information was collected concerning missing persons, usually with the aid of a psychologist or social worker, and always with a doctor present. Then the information (AM) was compared with Post Mortem (PM) data recorded by DVI teams. Receipt of accurate lists of hospitalized persons speeded the DVI task by reducing the number of missing persons. Information about missing body parts of survivors was also transferred to the Morgue to help in accounting for all material recovered.

019.

Looking Back on the Amia Outrage

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Two years after the explosive attempt to the Embassy of Israel, 18 July at 09:56 hours, Buenos Aires was shocked again. The Jewish Mutual in Argentina (Amia) building was demolished by a new explosion. Vittal E.M.S. is one of the biggest systems in Buenos Aires and seven ambulances were sent to the scene. They arrived at the scene from different points in the city within 15 minutes. This is our report of that cruel event.

One of us was a few meters away from where the bomb went off. The scene was one of desolation. We gathered four bodies and two lines of volunteers formed on the heap of rubble. Everyone did what they could, often in a disorderly manner and running unnecessary risks. The first hand-held megaphones arrived at 11:00 hours. Later, when we met our colleagues, we were summoned to the library where we found

Javier, a 20-year-old whose head and right arm protruded from the rubble. It took rescuers two hours to extricate him. Following extrication, he was stabilized for the transportation. (Luckily, Javier is alive.) At 15:00 hours, all of the private E.M.S. personnel were "invited" to leave the scene.

The 386 injured and astonished victims were treated in various hospitals, 86 died. This only is a photograph and just as every reader may have felt, emergency specialists too were overcome by despair—first because of the cowardly act, and second in the fact that inadequate training deepened the sense of failure.

030.

Bellows-on-Sternum Resuscitation (BSR)

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Objective: During the performance of advanced cardiac life support (ACLS), cardiopulmonary resuscitation (CPR) must be performed until a perfusing rhythm can be restored. For two persons, CPR using a bag-valve-mask and simultaneous ACLS is difficult to perform.

Hypothesis: Bellows-on-Sternum Resuscitation (BSR) will provide better conditions.¹ Is the performance of BSR feasible during ACLS?

Material: The Cardiovent (Kendall, prototype) is a bellows with a rubber block at its lower end. With compressed bellows, external chest compressions can be performed in a way similar to that accomplished when using the Cardiopump™ (but without decompression). Expansion and compression of the bellows allows ventilation without removing it from the sternum.¹

Once a patient is endotracheally intubated, one person can perform both ventilation and cardiac massage. During mask ventilation, the second person has to hold the mask only and has one hand free.

Method: The authors performed two-person CPR (5:1 ventilation/compression ratio) with ventilation by mask on a Laerdal Recording ResuscAnne. We alternated ventilation by BSR and conventional ventilation with a self-refilling bag (Weinmann Combibag).

Results:	BSR	Conventional
Cycles/min	11–12	11–13
Frequency of chest compressions/min	75–100	70–100
Compression depth correct (38–51mm)	98%	98%
Pressure release correct (0–1 mm)	90%	98%
Time for ventilation (sec)	1.4–2.2	1.0–2.0
Ventilation correct (0.8–1.21)	81%	92%

Conclusions: After 1 hour of training, we were able to perform BSR with a quality similar to that achieved during standard CPR. Correct pressure release and the visual control of hand

position were the main problems. Studies on a Mega-Code Trainer could test the hypothesis that overall performance of two-rescuer ACLS is better when associated with BSR.

References

1. Frimhberger; A new device for ventilation and CPR, 2nd PCEEMS 1994 Abstract number 21.

047.

Patient Identification and Information Systems: Application Issues in Europe

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One of the most crucial elements in emergency care is patient assessment: early access to reliable information and identification can have a major impact on effectiveness of the care provided. The advances in information technology have resulted in patient identification and information systems that can be applied to emergency and disaster care. The systems can be divided into "low-tech" and "high-tech" versions. Examples of low-technology options include the European Emergency Passport, Medic Alert, microfilm-based versions (German Emergency Card, Sabeco Emergency Card, Medicard), and magnetic strips. The high-tech versions, most of which are in different stages of testing, are microchip-based cards ("smart cards") that require software programs, a PC and a reader that can be portable and adjusted for use in f.i. an ambulance. The high-tech options have significant potential in (routine) Emergency Care, in particular when used in combination with other Health Care Telematic Networks. Directorate XIII of the European Union has supported, since 1987, the development of these cards through its AIM program (Advanced Informatics in Medicine). Examples of smart cards in Europe include: Defi-Card, Diabcard, CSAM/Vitale, MPC, Sabeco Smartcard. In the presentation, we will introduce and briefly discuss the "SIR-RCUS" criteria as a simple tool that can be used to evaluate the increasing number of options that will be offered and/or become available in the near future: 1) speed; 2) integration; 3) relevance; 4) reliability; 5) cost; 6) user friendliness; and 7) security.

052.

Simple Device for Difficult Intubations

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Objective: To evaluate the efficacy of a new endotracheal tube introducer for difficult intubation.

Background: In difficult intubations, a narrow stylet is easier to pass into the trachea than an endotracheal tube (ETT). Rather than passing an ETT over the stylet, we devised an inexpensive, disposable stylet that expands to allow the passage of an ETT through it. As the ETT passes down the device, it is guided into

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