

## Transportation Incidents: Two Examples of Ship Disasters in the Channel

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On 06 March 1987, the ferry Herald of Free Enterprise transporting 543 passengers and crew, 42 trucks and 84 cars, capsized one mile outside of the harbour of Zeebrugge. Within hours, a large rescue operation started at three operational levels. On board of the wreck, rescue was done by rudimentary means. Helicopters transported victims from the wreck to a nearby military harbour, while boats were directed towards an empty pontoon. At the pontoon, emergency care was provided, and further transport was organized to surrounding hospitals. The available resources made it possible to start Advanced Life Support (ALS) at the triage station, where 21 medical teams received more than 250 victims within hours after the event. The majority of casualties were due to immersion, while most of the injuries were minor orthopedic trauma, bruises, and cuts, which easily were treated. A few victims with cardiac arrest and hypothermia were referred to a hospital for further treatment. Meanwhile, the normal emergency care in the region was secured.

On 14 December 2002, the Tricolor, a cargo ship transporting 2,000 cars and with "shoebox" construction similar to the ferry, sunk after a collision a few miles out of Zeebrugge. The crew was rescued. Despite all kinds of warning systems, 10 near collisions and two real collisions occurred within two weeks after the accident.

The similarities between the two accidents helped to identify some important issues:

- Too much traffic in this area;
- Negligence of ship owners;
- Risk of a larger number of victims; and
- Environmental repercussions.

**Keywords:** accidents; advanced life support; ferries; immersion; rescue; transportation

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## Symposium: Mass Gatherings

*Chair: Dr. Judith M. Fisher, MD*

### What to Advise? That is the Questions: Planning for the Health Implications of Large Public Gatherings—A Preventive Approach

*R.I. Fawcett*

In March 1997, Emergency Medicine Australia conducted a workshop entitled "Mass-Gathering Medicine" at the Australian Emergency Management Institute at Mount Macedon. The purpose was to develop a broad set of guidelines to facilitate the planning for, and response to the health implications associated with large public gatherings. The resulting document, "Safe and Healthy Mass Gatherings," was published in 1999 as part of the Australian Emergency Manuals Series—Part III: Emergency Management Practice, Volume 2, Specific

Issues, Manual 2.

This paper highlights the preventive measures and health responses associated with mass gatherings such as air shows, rock concerts, festivals, and sporting events. Topics include pre-event planning, site access and perimeters, spectator management and crowd control, stages, platforms and other performance venues, temporary structures, and security. Public health issues include healthcare provision at the event, safety, and contingency plans for high-risk events such as automobile races and air shows. This material will draw upon experience with the planning and implementation of the health response plan for the Airshows Downunder International Airshow, held in February of alternate years (1997, 1999, 2001, and 2003 currently in planning phase), at Avalon near Geelong.

**Keywords:** air shows; concerts; festivals; large public gatherings; mass gatherings; sporting events

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### Mass-Gathering Medical Care in the Stockholm Area—A Review

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Festivals, fairs, concerts, parades, and rallies are some of the many events that cause large numbers of people to gather in one place. Whether the event lasts a day or a week, it's clear that the people attending may require organized medical care. Most of the medical needs are minor, but the team may have to treat patients with cardiac arrests and other serious problems including trauma. Careful planning and integration of emergency physicians' efforts with local hospitals and the emergency medical services system allow for an optimal delivery of health care, from the routine incident to a mass casualty event. This report critically reviews the provision of medical care at mass gatherings in the Stockholm area, especially the relationships between crowd size, certain characteristics of the event, and the frequency of patients seeking medical aid.

**Conclusion:** Type of event, weather conditions, and the size of the mass gathering have a significant effect on the numbers of spectators seeking medical care. Mass casualty incidents provide valuable lessons for the prehospital provider. A re-evaluation of large-scale rescue operations, which require a complex network of agencies, communications, and on-scene triaging, frequently exposes common weaknesses and errors. This report provides guidelines for more effective mass casualty management.

**Keywords:** concerts; crowd; festivals; large public gatherings; mass casualty; mass gatherings; parades; rallies

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### Medical Support During the European Union Summit in Gothenburg, Sweden, June 2001

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**Objective:** Numerous authors have shown that a variety of