

BURNS, INHALATION TOXICOLOGY

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Organization of Rendering Medical Aid to Those Burned at Group Thermal Trauma in Kherson Region

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This presentation considers administrative items to be solved before and during emergency situations. A two-stage system of evacuation and treatment is utilized. The first stage is the catastrophe hot-bed (incident scene) and the district hospital; the second stage is the burn department. Diagrams of the scope of evacuation transport, triage, protocols for individual medical personnel and medical teams, and in-hospital triage are provided.

First Stage: At the incident scene, instead of using gauze bandages to protect the burn wound from ambient contamination, swaddling [loose-fitting] clothes or sheets affixed with adhesive tape may be substituted to allow faster on-scene treatment of burn wounds by medical personnel, so that more burn victims may receive care more quickly on-scene.

All victims must be evacuated from the incident scene to a location in the emergency department (Reception Room) where secondary triage can be accomplished. Burn victims only should be brought to the hospital if the hospital suggests transport there first. No distribution among hospital departments is allowed except for those victims with burns that require hospital intensive-care therapy and treatment to suppress anaerobic infection. On average, burn victims with superficial burns undergo a 15-day treatment period at the district hospital.

Second Stage: For specialized treatment in the second stage of treatment, burn patients are transferred to the burn department after initial recovery from shock, or after their general condition improves. This secondary treatment is applied to patients with severe burns, irrespective of the body area affected, especially second- and third-degree burns covering more than 30% of the body, or for children with burns over 10% of the body, patients with acute-phase respiratory burns, and those with compound burn trauma.

The implementation of these administrative measures, following the two-stage evacuation system, made it possible to use facilities and means of public health service more expediently, to decrease the number of errors during initial triage of victims, use of bandaging material more expediently, and to begin rendering qualified and special medical aid to burn victims more quickly following their injuries. These steps accurately fulfill the main principal of "catastrophe medicine" [Disaster Medicine] to do the utmost with a minimum use of emergency and medical-service facilities.

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Critical Evaluation of Transportation of Burned Patients

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Introduction: Rendering first-aid and ensuring safe transportation are initial phases of therapeutic efforts in thermal injury. Both factors exert a significant influence on morbidity and mortality of burned subjects.

Methods: The means of transportation and the quality of first-aid measures were analyzed for 228 burn patients hospitalized at this department from 1 January 1986 to 31 December 1992, for the purpose of identifying shortcomings and errors.

Results: Forty-four patients were transported by emergency medical service (EMS) ambulance cars, 112 by ordinary ambulances, 51 by private cars, and 21 by other means. Adequate first-aid was provided only by EMS ambulance staff (one doctor, one nurse), with resuscitation continuing throughout the entire journey. Transportation by ordinary ambulances had numerous shortcomings: 1) no first-aid at the site of an accident; 2) no analgesia; 3) no intravenous fluids; and 4) no accompaniment. Secondary transports from other medical facilities also were flawed.

Conclusions: On the basis of this experience, it is recommended that all burn patients within a 30 km radius of a burn unit be transported directly to that facility by EMS ambulances. Patients from more distant places should be transported either by the EMS helicopter to the burn unit or to the nearest surgical facility where triage must be conducted to determine the need for and type of secondary transport.

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Fire Explosion Accident in a Greek Oil Refinery

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On 1 September 1992, Greece suffered the most severe industrial accident of modern times. Thirteen workers died (one on-site) and seven were injured after a fire explosion of petroleum-derivative leakage occurred in an oil refinery plant near Athens.

All patients suffered major burns and inhalation injuries and were transferred from the site of the accident to the Athens hospitals by ambulances, through heavy Athenian traffic. First-aid and intubation were carried out by the accident and emergency departments at the on-call hospitals. Later, all patients were transferred selectively to the burn unit beds,