

**Results:** The total number of children cared for by the Georgian Center of Disaster Medicine during the three years was 1,126. In 2003, the total number was 264 (23.4%); in 2004, the total number was 448 (39.8%); and in 2005, the total was 414 (36.7%).

The age distribution during the three years was divided into three age groups: (1) 311 patients (27.6%) were <1 year old; (2) 248 patients (22.0%) were 1–3 years old; and (3) 567 patients (50.3%) were 3–14 years old.

There was a total of 1,009 discharges (89.6%) and 117 deaths (10.4%). Of these deaths, 38 (14.3%) occurred in 2003, 45 (10.0%) in 2004, and 34 (8.2%) in 2005. Of the 1,126 children attended to during the three-year period 963 (85.5%) were transported. A total of 163 (14.4%) underwent observation, management, and stabilization without requiring transportation.

**Conclusions:** Medical teams are providing safe transportation of critically ill patients due to the skilled medical staff and necessary equipment resulting in improved patient outcomes. Since 2003, there has been a dramatic extension of this activity and considerable reduction in deaths during transportation. Of the deaths that occurred soon after the arrival of transport team, 52.0% were due to the terminal conditions of the patients caused by major trauma, head trauma, poisoning, sepsis, and burns.

**Keywords:** Georgia; hospitals; medical teams; pediatric; transportation  
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### Neurotrauma Structure: Its Diagnostic Peculiarities, and Medical Aid to Children in Various Earthquakes

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**Introduction:** The quality of treatment in children with neurotrauma depends on timely diagnostics and qualified medical aid. The purpose of this study was to determine the role of professional and timely applied medical aid to child victims of earthquakes suffering from neurotrauma.

**Methods:** A total of 486 children with neurotrauma (one month to 16 years of age) who survived earthquakes in Algeria (2003), Pakistan (2005), and Indonesia (2006) were examined. Of these, 35 were operated on for depressed skull fractures, eight were operated on for intracranial hematomas, and 24 were operated on for spine fractures and spinal cord trauma.

**Results:** In 61% of hospitalized children, light brain injury (BI) was observed. Many simply received a dressing on their heads, and then were sent home due to mass casualties. Children with intracranial hematomas were operated on within the first hours or days after the trauma for the most part—about 50% died. During daily rounds in the hospitals, a few children with subacute intracranial hematoma were taken for treatment.

**Conclusions:** To have better results in children with neurotrauma, hospitals must timely invite neurotraumatolo-

gists to participate in the care delivered. It is essential to early identify depression skull fractures and to provide adequate surgical treatment. Specialists must repeatedly examine all of the children with head traumas within 1–2 days after the event. Unsatisfactory results in children with neurotrauma were due to late diagnosis, late surgery, lack of specialists or equipment, and inadequate transportation.

**Keywords:** children; earthquakes; hospital; neurotrauma; surgery  
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### Responding to Biological and Radiological Events: Pediatric Simulation Using the US Strategic National Stockpile Ventilators for Resuscitation

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In response to a demonstrated lack of training in pediatric ventilator care, a training program for physicians, nurses, and respiratory therapists in Chicago, Illinois, was developed by the Children's Memorial Hospital to integrate pediatric simulators and ventilators into a mock biological event. Federal preparedness funds for the program were provided by the Chicago Department of Public Health. Ninety clinicians from fifteen Chicago hospitals attended one of seven three-hour training sessions in August and September, 2006.

Objectives of the simulation program were to discuss pediatric specific issues related to biological and radiological casualties, list the category A bioterrorism agents, identify patients with potential for respiratory failure and initiate mechanical ventilation in children using LP-10 and UniVent Eagle SNS ventilators. Didactic lectures included pediatric issues in biological and radiological agents & ventilator specific content. Psychomotor training included small group sessions with a "hands on" simulation of a botulinum toxin attack with subsequent need for ventilation. Participants responded to the changes in the simulated patient's condition and prepared ventilators with appropriate pediatric settings.

Hospitals were encouraged to register for the sessions in groups to enhance "team training" and the opportunity to simulate a biologic event with co-workers in a non-stressful environment was very valuable.

Pediatric emergency physicians and a respiratory therapist instructed and provided ventilator manuals, a Bio-Terry Quick-Vu II reference card (MASCAP, Inc.) and an Emergency Management Pocket Guide on Radiological Terrorism, (CDC, 2005).

Of the participants, 90% rated the program's achievement of objectives as "Strongly Agree" with the remaining 10% rating it as "Agree".

**Keywords:** biological; pediatrics; radiological; resuscitation; Strategic National Stockpile; United States; ventilator

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