Keywords: anti-personnel landmines; hospitals, role of; injuries; landmines, clearing of; planning

PN1-5
Modern Technology for the Removal of Landmines

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Outline:
1. Global Problem
2. Current technology
3. Why current technology is not adequate
4. The characteristics of the proper technology
5. JAHDS efforts

The most reliable estimates of the number of landmines currently in the ground in post-war areas in the world today range from 60 to 110 million in 70 different countries. However, this quantity of mines is not the point. A family of four requires 1/2 hectare (1/2 the size of a soccer field) of land to produce a ration of rice that will allow them to survive for one year. If there has been even one mine incident in their 1/2 hectare of land, the local people will be afraid to use it for farming purposes. So, it doesn't matter if the 1/2 hectare of land in question contains one mine or 100 mines. The local people are denied the use of that arable land for their survival.

The most effective demining technique in the world, at the present time, is detection of a metal signal with a World War II vintage metal detector, location of the landmine with a prodder, and destruction of the landmine where it is found with an explosive charge.

The major problem with this technique is twofold. First, the metal detector cannot tell the difference between a shell fragment, a piece of barbed wire, a soda can — common examples of false positives, and a landmine. The current ratio of false positives to actual landmines detected runs from about 150 to 450. You can imagine how this slows the process of landmine clearance to a crawl.

The appropriate hand-held detection technology, which does not yet exist in a field-practical form in the world, must be able to determine the size, shape, material composition, and orientation of an object that causes a signal register in a detector.

For the past seven years, JAHDS has been researching this problem, expending great effort, both in engineering time and money, as well as in dispatching technical advisors to mine-affected countries to understand this problem. We hope to field a prototype within this year that will satisfy the above-mentioned, appropriate criteria.

Keywords: anti-personnel mines; demining; detection; false positives; land, arable; landmines; removal

Plenary Session-I
Children, Disasters, and Wars
Monday, 10 May, 15:50–18:00 hours
Chair: *Leonid Rochal, Ernesto Pretto*

PL1-1
Plenary Session 1-1: Problems of Children in Disasters and Wars

Prof. Leonid M. Roshal, MD, PhD, DrSC (Russia)
Chair, International Task Force on Pediatric Disaster Medicine and Wars, World Association for Disaster and Emergency Medicine (WADEM)

Our previous experience in disasters and military and political conflicts indicates that the medical aid provided to children must be specialized and delivered as close to the disaster site as is possible. It has been useful to teach and train rescuers, paramedical personnel, physicians participating in the first responses about the peculiarities of rendering medical aid to children; especially those associated with the prophylaxis and treatment of the crush-syndrome, cardiac and pulmonary insufficiency, infusion therapy, psychological help, and cosmetic repair. The most positive results occur when the afflicted children are concentrated in specialized departments provided with the proper staff and equipment.

Children's doctors usually begin by this work — enthusiasts. Currently, along with the actively functioning International Committee for Children in Disasters, we began organizing regional committees for the countries of the Central and South America, Africa, Middle Asia, and Asia.

We hope that this Congress will show its interest in this problem.

Keywords: children; conflict; crush syndrome; disasters; insufficiency, cardiac/respiratory; regional committees; special care; war

PL1-3
Treatment of Children with Severe Compression Trauma

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International Committee for Children in Disasters, WADEM

During earthquakes in Armenia (1988), Georgia (1989), and Sakhalin Island (1995), the incidence of compression injuries in hospitalized patients was 24%. Fractures of extremities prevailed in 90% of cases, and they were accompanied by ischemic neuritis. Fractures of the lower extremities were 3-4 times higher than were those of upper extremities and fractures of the long tubular bones were found in 15.6% of the injured.

The most common surgical intervention performed was fasciotomy (32.9%). Purulent surgical complications developed in 11.0% of children after fasciotomy.

The best results were achieved using "subcutaneous" technique. The number of amputations in children with compression trauma was 2.1% in Armenia and 10.7% in