



Toronto

Sunnybrook
HEALTH SCIENCES CENTRE



WADEM Congress on Disaster and Emergency Medicine • 25–28 April 2017

Session Title: Pediatric Disaster Medicine Around the World

Hosting Track or Organization: WADEM Pediatric Track

Date: Thursday, 27 April 2017 - 10:00-12:00

Session Format: Moderated Panel Session

Co-Chairs: Vered Gazit and Laura Weingarten

Learning Objectives

- To review differences and similarities in how disaster education is developed, taught and maintained around the world.
- To review differences and similarities in how pediatric decontamination is taught, practiced and reviewed around the world.
- To review differences and similarities in how pediatric prehospital care systems are developed and maintained around the world.

Background (Rationale for Holding this):

Children are often the most visible victims of natural or manmade disaster. Despite their prominence in disaster imagery and awareness, academic work and policy often fail to address children's vulnerabilities or unique healthcare needs.

The purpose of this moderated plenary is to see how different regions around the world care for children while preparing for, mitigating, responding to and recovering from disasters.

Speakers:

- **Australia:** Dr. Tudor Codreanu - tudorcodreanu@yahoo.com, tudor.codreanu@health.wa.gov.au - Senior Medical Practitioner Emergency medicine, South West Health Campus, West Australia. He has Masters and PhD in Disaster Medicine, and for the past 12 years has been appointed Professor of DM (visiting) at the University of Brussels (Belgium), University of Novara (Italia), and University of Cluj (Romania). Tudor is a member of the Australian Medical Emergency Team (AUSMAT) of the National Critical Care and Trauma Centre (Darwin, Northern Territory) and a Track member for the Pediatric Track for the WADEM Congress.
- **Canada:** Dr. Elene Khalil - o.khalil@videotron.ca - has been on staff at the Montreal Children's Hospital Department of Pediatric Emergency Medicine since 1999 For the past 10 years, she

has been the medical director of pediatric disaster preparedness at the McGill University Health Center, during which time she developed the pediatric disaster preparedness program including a robust simulation based pediatric disaster training program. She holds a post as advisor to the Director of Public Health and works in an interdisciplinary regional committee on the development of regional and provincial emergency measures and disaster response networks. Elene is also a Track member for the Pediatric Track for the WADEM Congress.

- **USA:** Dr. Michael Frogel - mikefrogel@gmail.com - Associate Professor of Pediatrics, Albert Einstein College of Medicine
 - Principal Investigator Pediatric Disaster Coalition New York City
 - Chairman National Pediatric Disaster Coalition
 - Medical Director Pediatric Disaster Mental Health Intervention at Maimonides Medical Center in NY since March of 2013.
 - Attending Pediatrician Cohen Children's Hospital

- **Israel:** Prof Elhanan Bar-On - belhanan@gmail.com - Sackler Medical School – Tel Aviv University. He served as head of pediatric orthopedics in Schneider Children's Medical Centre, Israel and is director of disaster medicine and humanitarian response in Sheba Medical Centre, Israel. He has participated in numerous humanitarian aid missions, as a senior orthopedic surgeon and head of department in the Israel Defense Forces field hospitals following the earthquakes in Gujarat-India in 2001, in Haiti in 2010 and in Nepal in 2015 and following Typhoon Yolanda in the Philippines in 2013.

- **Japan:** Dr. Miho Misaki - mihotsuruwa@gmail.com - Japan Disaster Medical Assistance Team (DMAT) secretariat and National Disaster Medical Center, department of clinical research. Currently establishing and the leading researcher for the disaster medical education and disaster network specialized in pediatric medicine in Japan. A member of disaster preparedness committee for the Japan Pediatric Society. Responded in numerous domestic and international disaster relief.

Topics and Questions Discussed in the Panel Included:

1. Government Disaster Response Plans

Do you have a government response plan in your region or does each institute come up with their own plan independently?

- **Israel:** Each individually, via MOH supervision to ensure it meets the national standards
- **NYC:** guidelines from Governmental agency (not unified), with pediatric inclusion. Upcoming coordination through national disaster coalition.
- **Australia:** Yes, national/federal plan with pediatric annex. But given broad geographic distribution, plan is “intentionally vague”. Most states are expected to adapt plan to specific region.

- Credentialing at different sites can be an issue due to regional implementation (e.g., credentialing was an issue in the initial Bali bombing, has now been corrected).
- **Canada:** Provincial disaster plans, through federal funding. Security Canada, manages a lot of the funding. There is disconnection between administration and front-line workers. No unified plan for disaster management between hospital to hospital.
- **Japan:** 1995 Earthquake: required consolidated disaster and emergency management.

2. Pediatric Healthcare Facilities

When responding to MCI, do you manage all pediatric patients in specialized pediatric trauma centres? How are they managed? Split? Non-trauma, General EDs?

- **Japan:** Split among general centres but PICU, NICU services at specific hospitals.
- **Montreal/Canada:** no specific allotment of patients to specific departments, general departments can handle pediatric patients. Trauma patients go to trauma centres. Secondary transport is limited.
 - Paramedic driven, will bring them into the children's hospital.
- **Australia:** Broad geographic distribution.
 - Western Australia has Princess Margaret Hospital (Children's)—only Single centre
 - Economically and logistically impossible to separate Adults and Children in MCI
 - Family centred approach: Treat entire family in single centre if possible.
- **NYC:**
 - Urban centres: 90% of children in US are cared for in non-pediatric facilities.
 - EMSC for kid's program: implementing that every single centre has a pediatric champion and a pediatric disaster plan.
 - Rural centres: patients are sorted to hospital for specialty and transport.
 - 28 hospital drill on May 25th to test all pediatric hospitals.
 - Deals with reunification later, priority is transporting patient to location where can get best care.
- **Israel:** Small, densely populated, uniform country
 - Only 4 pediatric centres but all adjacent to major teaching centres
 - Patients are distributed among all centres, command centre by MOH, and connected to EMS.
 - Children with Major, life-threatening injuries will be transported to trauma centre for appropriate care
 - Try to keep children and parents together to help with the re-unification process
- **Question: What if the pediatric centre is incapacitated?**
 - NYC: multiple centres available, would reroute to another centre. Contingency plans are available.

3. Disaster Education and Training

- ***How often do you run a Disaster exercise in your institute?***
- ***Are there any government standards you need to meet?***
- ***Do you get governmental assistance in designing and executing these exercises?***

- ***How do you teach pediatric disaster medicine? Is it part of any formal curricula?***
- **Canada:** McGill has a large in-situ exercise every 2nd year, with smaller simulations in between (e.g., blood bank, pharmacy).
 - Large simulations are costly, disruptive.
 - Incorrect assumption is sometimes that once the simulation is complete team is ready and no further training is required
 - No government disaster preparedness standards to abide by. They are created hospital/regionally, based on best practices. No financial/educational assistance via the government.
 - Largely pushed and run by the PEDs
 - Disaster Management taught to fellows via 3 sessions, inter-professional learning. No formal curricula developed.
- **Japan:**
 - Several times per year simulations are run.
 - Workshop run, 4 hour program
 - No formal curricula
- **Western Australia**
 - Government standards: Are supposed to conduct “regular” training exercises. However, no standard for how often, how many training should be run by departments.
 - Usually attempt to complete EMERGO simulation once per year, but difficult if don’t have enough buy in.
 - All done through national disaster and emergency management program.
 - No funding for those participating in exercises.
 - No formal curricula or formal training
- **NYC**
 - Joint Commission (Governmental) demands that every hospital do disaster management planning each year.
 - New guidelines via Federal Government states that needs to be a full- scale drill including special populations (i.e., children), including community centres (e.g., outpatient and urgent care centres)
 - FEMA and Homeland security compliance required with measured outcomes
 - Currently in development of a Pediatric Disaster Management Toolkit, publishing within a year.
 - Federal funding through state departments and coalitions. Multi-hospital drills do get some degree of funding. Hospitals do have to comply with these requirements regardless of reception of funding.
 - TEEX being offered nationwide
 - Very limited training within residency programs including other specialties (i.e., orthopedics, surgery)

- **Israel**
 - Every hospital does a mandatory drill once a year, meeting required standards.
 - Based on a national plan
 - IPRED every 2 years is a national meeting, and observation of drill.
 - Is government supervised and with assistance/funding
 - Training: no formal teaching of disaster medicine pediatric or adult in residency/medical school.

- **Comments/Questions**
 - No preparedness in Venezuela, during events obvious lack of preparedness
 - Rural Alberta: no drills, would be helpful to integrate a pediatric component within a larger drill, especially within community regions.
 - Michael Frogel (NYC): every pediatric plan should be integrated within a larger (all-ages) disaster plan.
 - How do we increase the exposure to pediatric disaster medicine?
 - Include it within your general teaching on newsworthy topics
 - ✓ E.g., Complete a Grand Rounds with speaker on Sarin Gas and pediatric exposure
 - Western Australia: “Disaster medicine is not as of yet a science”
 - ✓ RCTs are not possible

4. Psychosocial Response to MCI & Reunification

- ***Do you have any formal means to provide psychosocial care during and after a mass casualty event or major disaster? Who provides care?***
- ***Do you have a national database to allow effective reunifications of pediatric patients and their families?***
- ***If using photos of unknown patients how do you overcome the confidentiality barriers to show those photos to parents looking for the children?***

- **Israel:**
 - National database for identification with photograph, viewing is only available to very select individuals to protect confidentiality.
 - Hospital and Community based teams including social workers, nurses at site on MCI/Disaster incident and other important locations (e.g., morgue, EDs) to help with reunification
 - Also, a liaison to communicate between hospital and community based teams.

- **NYC**
 - No national database, but does recommend pictures of each child during a disaster.
 - Confidentiality is obviously a concern. No national solution. Should be addressed through the disaster management plan at each hospital.
 - Consider the inclusion of an ethics group when planning a disaster protocol.
 - Does recommend Social Workers, Nurses, Counsellors within Disasters/MCI on site and at other locations.

- Same team should also have structure to treat health-care providers
- **Western Australia**
 - No national reunification database, haven't had an incident which has required
 - They do take photographs of the children to help with reunification
 - ✓ Governmental organizations help with communication.
 - No formal psychosocial program within every hospital, is central within specialized hospital.
 - Australian Red Cross runs register, find and reunite.
 - Not connected directly to healthcare but is separate.
 - Helpful to keep reunification outside of hospital due to time constraints.
- **Canada/Montreal**
 - Every province is separate, age of consents vary etc.
 - A Formal psychosocial plan was developed after the Dawson College incident in 2006
 - Trauma patients transported to adult hospitals.
 - Social workers are the experts with reunification and supporting psychosocial issues.
- **Japan**
 - Formal plan is in place: Public health nurses and social workers are tasked to provide psychosocial care
 - Pediatricians should be encouraged to also engage in patient psychosocial care.
 - No national database for photographs and reunification.

5. Challenges in Pediatric Disaster Medicine

From your perspective, what are the biggest challenges facing pediatric DM providers as we move into 2017?

- **NYC:**
 - Recognition that kids are a part of the disaster, need pediatric champions and increased advocacy for their inclusion.
 - Funding: children account for approximately 25% of patients in disaster, however, only 1c/out of every 10 dollars is spent on pediatric disaster management. • CBRNE: make sure you have the right equipment with Peds specific volumes and equipment (e.g., pediatric auto-injectors for Sarin exposure – Atropine and 2PAM)
 - Need more research to identify correct dosages, half-lives etc.
- **Israel**
 - Development of specific protocols and reasons for overseas deployment
- **Western Australia**
 - Need a better understanding of the impact of MCI, Disasters on the pediatric population and our optimal response to these patients (e.g., medically,

psychosocially)

- Improve the efficiency and stream-line our current practices—standardize (i.e., CPR) this will allow for appropriate research

■ **Canada/Montreal:**

- Lack of uniformity in legislation and in making disaster preparedness a priority
- There exists an un-educated discrepancy in funding
- People are becoming too desensitized to disaster programs.
- Partner with adult disaster preparedness

■ **Japan**

- Few physicians involved in Pediatric Disaster preparedness
- No governmental system for disaster preparedness currently, but in 2011 greater communication and coordination between systems (EDs, ICU, Prehospital care, governmental)
- Strengthen disaster response skills of clinicians and responders.

6. Comments from the Audience

■ ***How do we engage more people in disaster preparedness?***

- Need champions, educate from the beginning (e.g., medical school, nursing school), this will develop advocates
- Encourage people to volunteer and engage in real-life deployments
- There is Power in Numbers.

If you have questions about the Pediatric Disaster Medicine Around the World session or the Pediatric Track, please email:

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