



Pediatric Disaster Toolkit: Hospital Guidelines for Pediatrics in Disasters

CBPP PEDIATRIC TASK FORCE

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Mission Statement

- **W**e, the CBPP Pediatric Task Force, under the guidance/auspices of the New York City Department of Health and Mental Hygiene Pediatric Advisory Group, in an effort to safeguard the pediatric population, will advise the Healthcare Community and New York City agencies on the appropriate planning necessary to ensure the proper care of children and their families in the event of a disaster.



GOALS of Toolkit

- Create a tool book for hospitals who do not have 1 or all of the below:
 - 1) Do not have pediatric trauma surgery
 - 2) Do not have pediatric intensive care unit
 - 3) Do not have inpatient pediatrics or inpatient obstetrics



Development of Toolkit

- Essential System Components Identified
- Literature search
- Subject matter experts utilized
- Multiple drafts reviewed by stakeholders
- Presented Spring/Summer 2005
 - Pediatric Disaster Advisory Group
 - Shared with colleagues
- Distributed and still open for public comment
- Submitting for Publication summer 2006



Principles of the Toolkit

- Easy to use
- Administrative Focus for Emergency planners
- Evidence Based
- How to organize (personnel)
- What is needed (equipment, space, training)
- Data for resource acquisition



Toolkit Chapters

- Security
- Dietary
- Surge Considerations
- Equipment
- Training
- Transportation
- Staffing
- Decontamination
- Pharmacy
- Psychosocial Considerations/Legal Concerns
- Infection Control



Security

- Does your institution currently have as part of its disaster plan, an area to house uninjured/unaccompanied children?
 - Pediatric patient tracking
 - Pediatric safe-area
 - Safe area Checklist



Dietary

- Designed primarily for non-Peds hospitals
- Appropriate diets by age and medical conditions
- Methods of feeding
- Hydration strategies
- Sample menus including Power outage menu



Surge Considerations & Equipment

- Preparation for “worst case scenario”
 - Can’t transport
 - Have to Treat and Admit children
- Guidelines for identifying space needs for children
- Recommended equipment for immediate availability – including sizes



Training

- Recommended minimum level coursework for all personnel



Transportation

- **Inter-hospital** transport strategies and mechanisms
 - When the usual is not available
 - Stable and unstable
 - Use of car seats in emergency vehicles
- **Intra-hospital**
 - Guidelines
 - Use of alternate available equipment



Staffing

- Recommendation for identifying staff and expertise from within Institution
- Presence of pediatric advocate on planning committees
- Recommendation for identification of pediatric focused coordinators
 - Job action sheets
 - Pediatric Service Unit leader
 - Pediatric Logistics Unit Leader



Decontamination

- Identification of pediatric-specific issues
- Best evidence recommendations for care



Hospital Decontamination and the Pediatric Patient

MODEL PROTOCOL ALGORITHM

- Victims arrive at the hospital that require decontamination before entering the hospital.
 - **Children are present among the victims!**
 - (Critical injuries are treated first)
- It is recommended that children not be separated from family member(s) or adult caregiver(s).
 - Use low pressure/high volume “child friendly” handheld hoses to shower children.

Ambulatory

Non-Ambulatory

Estimate Child's Age by visual inspection

School Age
(8 to 18 yrs old)

Pre-School
(2 to 8 yrs old)

Infants and Toddlers
(less than 2 yrs old)

disrobe by child's caregiver and “hot zone” personnel
place on a stretcher or restraining device
escort through the decon shower by “hot zone” personnel and caregiver
direct supervision of decon (of caregiver, too)
monitor airway

-disrobe w/o assistance
-respect modesty -
-respect privacy
-child decons him/herself, but goes through decon shower in succession with caregiver, parent, or classmates

-assist disrobing (child's caregiver or “hot zone” personnel)
-direct supervision of decon
-monitor airway
-escort through the shower by either caregiver or “hot zone” personnel.

-disrobe by child's caregiver and “hot zone” personnel
-place on a stretcher or restraining device
-escort through the decon shower by “hot zone” personnel and caregiver
-direct supervision of decon (of caregiver, too)
-monitor airway
(Caregiver should not carry the child due to the risk of accidental trauma resulting from a fall or from dropping the child while in the shower)

Treat or prevent hypothermia (towels, gowns, warming blankets)
Immediately give a unique identification number on a wristband (or equivalent)
Triage to an appropriate area for further medical evaluation
Please note: Children and their families (parents or caregivers) should not be separated unless critical medical issues take priority

Pharmacy

- Comprehensive review of pediatric drug inventory
- Dosing guidelines
- Checklists for minimum availability
- Extensive appendix



PHARMACY INVENTORY (PEDIATRICS)

Abbreviations: E = essential, D = desired, mg = milligram, g = gram, kg = kilogram, ml = milliliter, BID = twice daily, q = every, h = hours, div = divided (for dosages based on a daily dose, which needs to be then divided into intervals), max = maximum dose, y/o = years old, IV = intravenous, IM = intramuscular, PO = by mouth, SC = subcutaneous, IO = intraosseous (note: as an alternative to the IV route in patients with vascular access problems most parenteral medications can be given via an intraosseous needle), PRN = as needed. Many of these medications may already be in hospital's pharmaceutical inventory.

Exposure/Agent	Pediatric Dose	Importance
Ciprofloxacin <i>or</i> Doxycycline <i>plus</i> Clindamycin <i>plus</i> Penicillin G <u>Anthrax, cutaneous</u>	10-15 mg/kg IV q12h (max 1g/day) 2.2 mg/kg IV q12h (max 100mg/day) 10-15 mg/kg IV q12h	E E E
250,000 - 600,000 units/kg/day div q4h		E
Ciprofloxacin <i>or</i> Doxycycline <i>or</i> Penicillin V 250mg/5ml oral solution <i>or</i> Amoxicillin 250mg/5ml suspension <u>Anthrax, post-exposure Prophylaxis</u>	10-15 mg/kg IV q12h (max 1g/day) 2.2 mg/kg IV q12h (max 100mg/day) 25-50 mg/kg/day PO div q6h 40-80 mg/kg/day PO div q8h	E E D D
Ciprofloxacin 250mg/5ml oral suspension <i>or</i> Doxycycline ²	10-15 mg/kg PO q12h (max 1g/day) 2.2 mg/kg PO q12h (max 200mg/day)	E E

Table 2: Sodium nitrate dosing (Berlin et al, 1970)

Estimated Hgb (g/dl) for average child	Sodium nitrate (3%) Dosage (ml/kg)
7	0.19
8	0.22
9	0.25
10	0.27
11	0.30
12	0.33
13	0.36
14	0.39
	Maximum 10 ml

Table 3: Influenza treatment with oseltamivir (CDC, 2002; Prod Info Tamiflu(R), 2001)

OSELTAMIVIR DOSING RECOMMENDATIONS FOR CHILDREN

Oseltamivir is not approved in children < 13 years for prophylaxis of influenza, but is approved for treatment in children over 1 year of age. Amantadine is cheaper than oseltamivir and approved in children > 1 year, but is only active against Influenza A. Table 3 shows the dosing of oseltamivir for therapy of influenza.

Weight*	Dose
>1 year, ≤ 15 kg	30 mg BID
> 15 kg to 23 kg	45 mg BID
> 23 kg to 40 kg	60 mg BID
> 40 kg	75 mg BID

Psychosocial Considerations

- Developmental age specific guidelines
- Psychosocial aspects of patient and staff response to disaster
- Strategies for dealing with children and families
- Legal issues
- Cultural responses to trauma
- Extensive list of resources



Upcoming Sections

- Family Information and Support Center
- Hospital Pediatric Mass Casualty Triage



Questions?

