

WHAT IF THE NICE TERRORIST ATTACK WOULD HAVE HAPPENED IN MILAN?

DRAWING A DISASTER PLAN FOR MASS CASUALTY INCIDENTS INVOLVING THE PEDIATRIC POPULATION

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OBJECTIVE

Asymmetric warfare, conflict and terrorist attacks involving children raise concerns regarding the preparedness to respond to mass casualty incidents involving pediatric patients. The objective of this project was to assess the resources available in the metropolitan Milan area to develop a priority dispatch plan for a mass casualty incident with pediatric patients.

METHODS

A focused search of the medical literature and clinical guidelines established a minimal standard requirements of care of pediatric patients involved in an MCI to determine the surge capabilities in terms of number of patients and severity of injuries for each study hospital in the metropolitan Milan area.

RESULTS

The hospitals that took part in the study were either adult trauma centers or pediatric hospitals in the metropolitan Milan area. The overall surge capability identified was of 40-44 pediatric patients involved in an MCI, distributed based on age and severity and based on the hospital resources and expertise.

Table 1: Resources for the care of pediatric trauma patients with T1 priority

	Personnel	Equipment
Front Line	Expert in management of upper airways ^a	Ventilator
	Expert in ALS and DC surgery ^b	Monitor-defibrillator
	Critical care nurse	RX thorax/pelvis
	Nurse ^a	US (E-FAST)
	Radiology technician	Medications, wound care, splinters
	Healthcare assistant	Support lines, tubes, catheters
Back Line	Anesthesiologist	Ventilator
	Surgeon ^c	Monitor – defibrillator
	Surgeon (DC surgery)	Medications, wound care, splinters
	Scrub Nurse	Support lines, tubes, catheters
	Nurse	
	Healthcare Assistant	
ICU, Radiology, Pediatric Ward	Intensivist	Ventilator
	Radiologist	Monitor – defibrillator
	Pediatrician	CT-scan
	Traumatologist (on call 24h/day) ^c	Medications, wound care, splinters
	Neurosurgeon (on call 24h/day) ^c	Support lines, tubes, catheters

ALS=Advanced Life Support ; DC=Damage Control; US=Ultrasound; E-FAST=Extended Focused Assessment with Sonography in Trauma; OR=Operating Room; ICU=Intensive Care Unit.

a. for patients < 3 years old: mandatory pediatric expertise; for patients 3-12 years old: preferably with pediatric expertise

b. Preferably with pediatric expertise

c. Mandatory pediatric expertise

Table 2: Resources for the care of pediatric trauma patients with T2 and T3 priority

Personnel	Equipment
Expert first evaluation / management of trauma patient ^c	
Pediatrician / neonatologist	Oxygen – aspirator
Trauma surgeon / Emergency doctor with experience in trauma care	Monitor – defibrillator
Critical care nurse	Medications, wound care, splints
Nurses^b	Support lines, tubes, catheters
Healthcare assistant	
Psychologist	

US=Ultrasound; E-FAST=Extended Focused Assessment with Sonography in Trauma.

b. Preferably with pediatric expertise

c. Mandatory pediatric expertise

No Highlight = Resources for the care of pediatric trauma patients with T2 priority

Yellow = Resources for the care of pediatric trauma patients with T2 and T3 priority

Green = Resources for the care of pediatric trauma patients with T3 priority

Table 3: Surge Capability (n = pediatric trauma patients)

Hospital	Triage Priority				Total
	T1 (<3years)	T1 (>3years)	T2	T3	
Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico	1	1	2-3	6	10-11
ASST Fatebenefratelli	1	-	2-3	6	9-10
Sacco, Ospedale dei Bambini Buzzi;	2	1	2-3	6	10-11
ASST Grande Ospedale Metropolitano Niguarda;	1	1	2-3	6	10-11
Ospedale San Raffaele	1	1	2-3	6	10-11
Total	5	3	8-12	24	40-44

CONCLUSIONS

The findings from the metropolitan Milan area shows the basis for non-Pediatric Trauma Center adult and pediatric hospitals to work in synergy to develop MCI response plans involving pediatric patients. Simulations exercises will need to be carried out to evaluate and validate the plans.