

# TERROR MEDICINE

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## Emergency Medicine

“Emergency medicine is the medical specialty with the principal mission of evaluating, managing, treating and preventing unexpected illness and injury.”

American College of Emergency Physicians

## Disaster Medicine

“the study and collaborative application of various health disciplines . . . to the prevention, immediate response and rehabilitation of the health problems arising from disaster, in cooperation with other disciplines involved in comprehensive disaster management.”

World Association for Disaster and Emergency Medicine

## Terror Medicine

Terror Medicine is the medical evaluation, treatment, management and prevention of illness and injury associated with terrorist attacks.

## Terror Medicine is

unique in its special requirements for preparedness, number and nature of casualties, manner of care, and anticipated outcomes.

## Terror Medicine encompasses

- **Preparedness**

## Strategic National Stockpile

## Decontamination Facilities

# Surge Capacity

Drill ( Explosives) Hadassah Hospital  
Jerusalem, May 30, 2005

## Drill (Chemical Exposure) Hadassah Hospital Jerusalem, May 30, 2005

## Signal Aspects of Preparedness

- Supplies (type, quantity)
- Equipment
- Structural enhancements (surge capacity, walls/windows, ventilation systems, protected/underground areas)
- Education
- Rehearsals/Exercises

## Terror Medicine encompasses

- Preparedness
- Incident Management

Hospital Nurses  
Oklahoma City Bombing, 1995

## Madrid Bombings, 2004

## London Bombings, 2005

## Suicide Bombing at Sbarro's Jerusalem, Aug. 9, 2001

**Initial Triage: Scoop and Run**  
(minimal onsite treatment)

Triage Outside Hospital Entry

Teams Ready for Multi-Casualties



**Missile Hit on Ophthalmology Department**  
Western Galilee Hospital, July 28, 2006



**Ophthalmology Department**  
Western Galilee Hospital, July 2006



Western Galilee Hospital  
Jul.-Aug. 2006



400 Emergency Beds Underground  
Western Galilee Hospital, Jul.-Aug. 2006

## TOP-OFF 3, RWJUH New Brunswick, NJ, 2005

## Signal Aspects of Incident Management

- Triage—
  - at scene of incident
  - at hospital entry
- Ambulance inspection at hospital perimeter
- Cellphone lines blocked
- Communications capability between—
  - hospitals
  - hospitals, law enforcement, other authorities
  - hospitals and inquiring families

## Terror Medicine encompasses

- Preparedness
- Incident Management
- **Injuries and Responses**

## Penetrations from Nails/Ball Bearings during Terror Attack

# Penetrations from Nails/Screws during Terror Attack

(14-year old girl at Sbarro's, Aug. 9, 2001)

G. Almogy, et al. "Suicide Bombing Attacks," *Annals of Surgery*, Mar. 2004





## Maxillofacial Trauma From Terror Attacks

“Compared with non-  
terror trauma . . . .  
maxillofacial terror  
casualties experience a  
unique epidemiology,  
with more severe  
injuries and higher  
prevalence of soft and  
hard tissue injuries.”

D. Ringler, et al. “Maxillofacial Trauma Resulting  
From Terror in Israel,”  
*J Craniofacial Surgery*, Jan. 2007

## Surgically Recovered Pieces from Victim of Suicide Bombing

What Is This?

## Signal Aspects of Injuries

- Numerous penetration wounds
- Blast injuries
- Blunt trauma
- Inhalation injuries
- Crush
- Burns
- Effects of biological, chemical, or radiological agents

## Terror Medicine encompasses

- Preparedness
- Incident Management
- Injuries and Responses
- **Psychological Consequences**

## Panel on Terror-Related Stress May 30, 2005

Intensity of initial psychological reaction from a terror attack is much higher than from other traumatic events like road accidents.

Dr. Arik Shalev, Director of Psychiatry, Hadassah

## Panel on Terror-Related Stress May 30, 2005

A community response to terrorism includes seeking out children in schools and day-care because parents often don't want their children to go to a psychiatric clinic.

Dr. Danny Brom, Center for Treatment of Psychotrauma, Herzog Hospital

# Psycho-Physical Long Term Care



**Kinneret Chaya Boosany**

February 2002, Age 23



## **Kinneret, Survived Suicide Bombing** Mar. 30, 2002 in a Tel Aviv Coffee Shop

Comatose 3 months,  
80% of body burned,  
shattered bones, lost  
hearing in 1 ear, lost  
sight in 1 eye, lost use  
of 1 lung, extensive  
physical and psycho-  
therapy, more than 50  
surgeries.

## **Kinneret and Her Mother** Nov. 2002

Kinneret, Nov. 2002

Kinneret Chaya Boosany, Sept. 2004

*“There was a  
period when I was  
very angry...but as  
[my therapist] said,  
that was normal.  
It passed...  
Bitterness leads  
you nowhere. You  
want to live.”*

## Signal Psychological Issues

- Unusually intense early reaction by people who experience a terror event
- Immediate psychological intervention essential
- Early group briefings inadvisable (exception: family members)
- Responders and therapists may need therapy
- Availability of long-term care (psycho-physical)

Efforts to discourage and prevent terrorist attacks should be among a society's highest priorities. No less important are the requirements to prepare for, respond to, and recover from these events.

The more that individuals and institutions become familiar with the essentials of terror medicine, the greater the protection they can provide to the public.

Thank you!