EXPLOSIVE WEAPONS EFFECTS ON THE HUMAN BODY
Types of injuries, disability and victims assistance implications

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EXPLOSIVE WEAPONS
EPIDEMIOLOGY

- In today's conflicts there is a prevalence of injuries due to bomb blasts over bullets and landmines.

- Lethality of blasts: 22% (indoor > 50%).

- For every victim that is dead we estimate 3-5 wounded.
EXPLOSIVE WEAPONS
HOW DO THEY HARM

- The explosion is an exothermic chemical process

- Effects:
  - A sudden enormous increase of pressure: the blast wave
  - A thermal wave
  - The blast wind
  - The propagation of metallic fragments around
EXPLOSIVE WEAPONS
TYPES OF INJURIES

- I: effects of the blast wave (blunt trauma, crush injuries)
- II: effects of the fragments (penetrating injuries)
- III: effects the blast wind (human body propelled in the air, hitting objects, building collapse)
- IV: effects of the thermal wave (burns, inhalation of toxic gases)

A single patient may present a combination of the above injuries
EXPLOSIVE WEAPONS
BIOLOGICAL CONTAMINATION

- Hepatitis and HIV can potentially be transmitted by the explosion
- The risk is higher in crowded spaces and high prevalence areas
THE INVISIBLE WOUNDS
The underestimated psychological effects of explosive weapons

Multiple injuries

- Poor physical condition
- Change of social situation
- Legal status
MENTAL HEALTH IMPAIRMENT

- Mood disorders
- Anxiety disorders
- Personality changes
- Psychotic disorders
LONG TERM EFFECTS IN SURVIVORS

- Physical handicaps
- Chronic complications of the injuries
- Mental health disorders
EFFECTS ON CHILDREN

- Compound physical and psychological effects
- Less developed coping mechanisms
- Frequent replacement of limb prostheses
EXPLOSIVE WEAPONS VICTIMS ASSISTANCE IMPLICATIONS

- Harm human bodies in multiple ways: burns, blunt, fragments penetration

- Cause multiple injuries in a single victim: dozens of holes on the body, multiple areas affected, extended burns…

- Particularly demanding in terms of time and resources required for treatment of the victims

- Usually presenting as mass casualty situations
EFFECTS ON THE HEALTH SYSTEM

- The health system is one of the first victim of conflicts
  - Doctors and nurses flee the conflict area
  - Health facilities are targeted
  - Diagnostic capacity is reduced
  - Salaries are not paid
  - Supplies are not available

- All this at a time when the needs are increased
HELP US PREVENTING IT!