

# Definition of a Medical Disaster

*When the destructive effects of a natural or manmade forces overwhelm the ability of a given area or community to meet the demands for health care*



# Principles

## Principles and elements will improve hospital

- Preparedness
- Training
- Exercises
- Response



# Basic components of a hospital disaster plan:

## Four phases of emergency management

- 1) Mitigation: find ways to reduce the devastating effects of disaster **BEFORE** it occurs.
- 2) Preparedness / Planning
- 3) Response
- 4) Recovery / Debriefing



# Protocols

- Treatment
- Procedures
- Destination
- Transport
- Communication
- Misc, e.g. DNR, AMA, bystander MD



Figure 7.1

# Phases of Disaster Response

## 1. Activation

1. Notification
2. Organization of command post

## 2. Implementation

1. Search and rescue
2. Triage, stabilization and transport
3. Definitive management of scene hazards and victims

## 3. Recovery

1. Withdrawal from scene
2. Return to normal operations
3. Debriefing



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graph TD; IC[Incident Command] --- L[Logistics]; IC --- P[Planning]; IC --- O[Operations]; IC --- F[Finance];
```

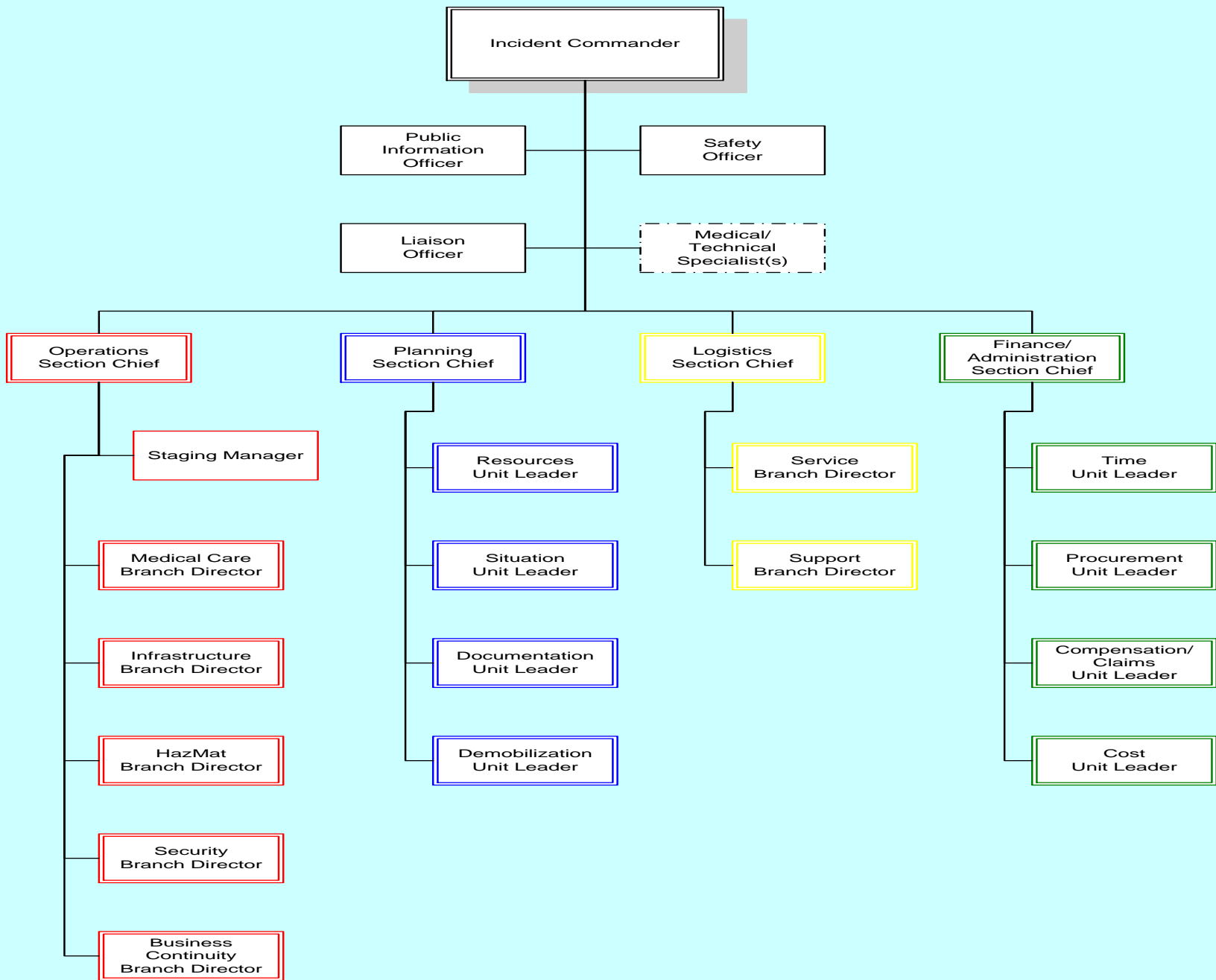
Incident  
Command

Logistics

Planning

Operations

Finance





# Job Action Sheets

- Found for each command position
- Standardized format
  - Title
  - Reports to
  - Radio title
  - Mission
  - Task checklist



# Description of Disaster

- 3 temporal phases of injury event
  - Prevent
  - Event
  - Post event

# Description of Disaster

- PICE- Potential Injury Creating Event

# PICE- Prefixes

A	B	C
Static	Controlled	Local
Dynamic	Disruptive	Regional
	Paralytic	National
		International

# PICE

PICE Stage	Need for outside help	Status of outside help
0	None	Inactive
I	Small	Alert
II	Medium	Standby
III	Large	Dispatch

**Injured & non-injured victims**

**Impact Zone**

**Triage Zone**

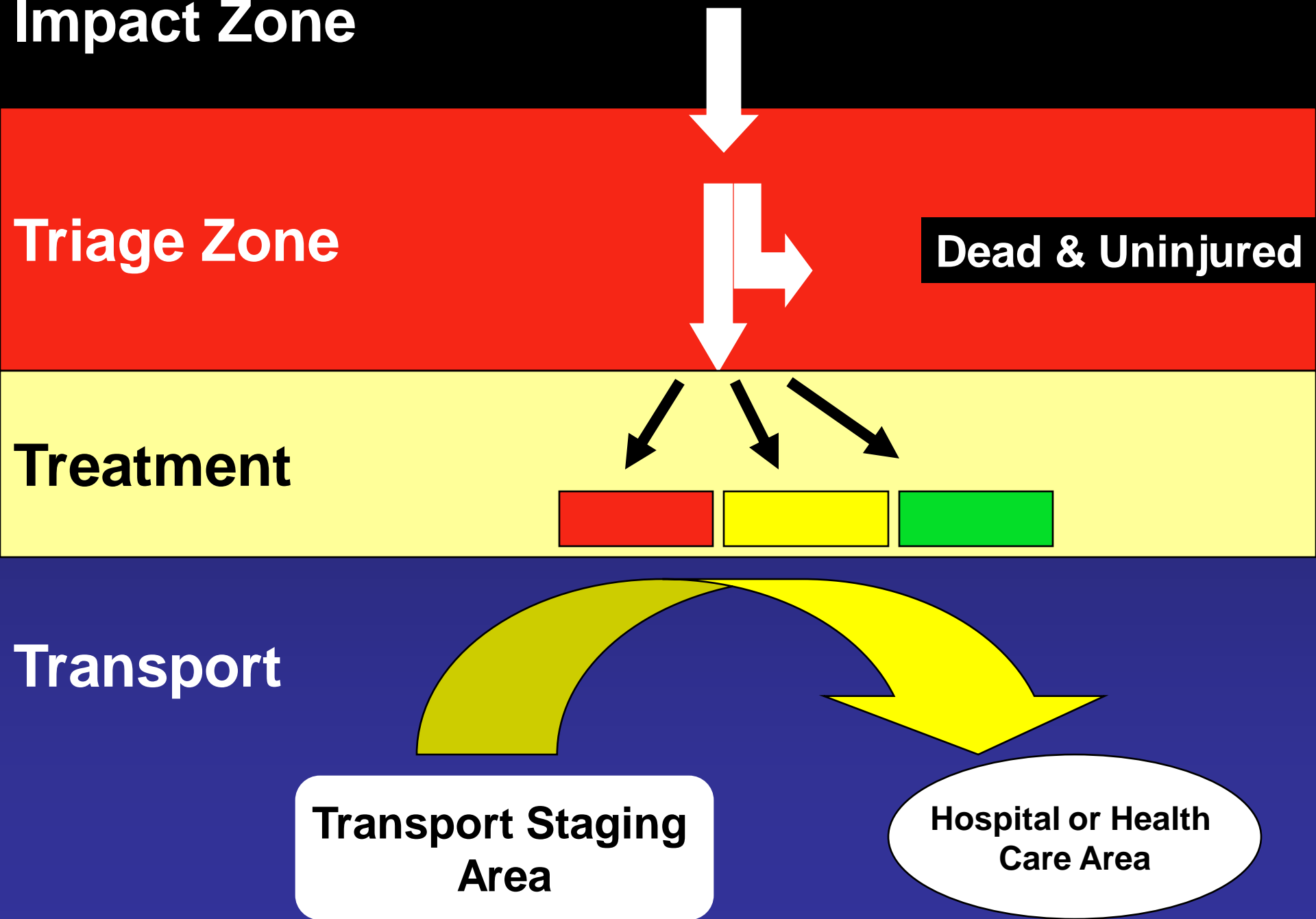
**Dead & Uninjured**

**Treatment**

**Transport**

**Transport Staging Area**

**Hospital or Health Care Area**

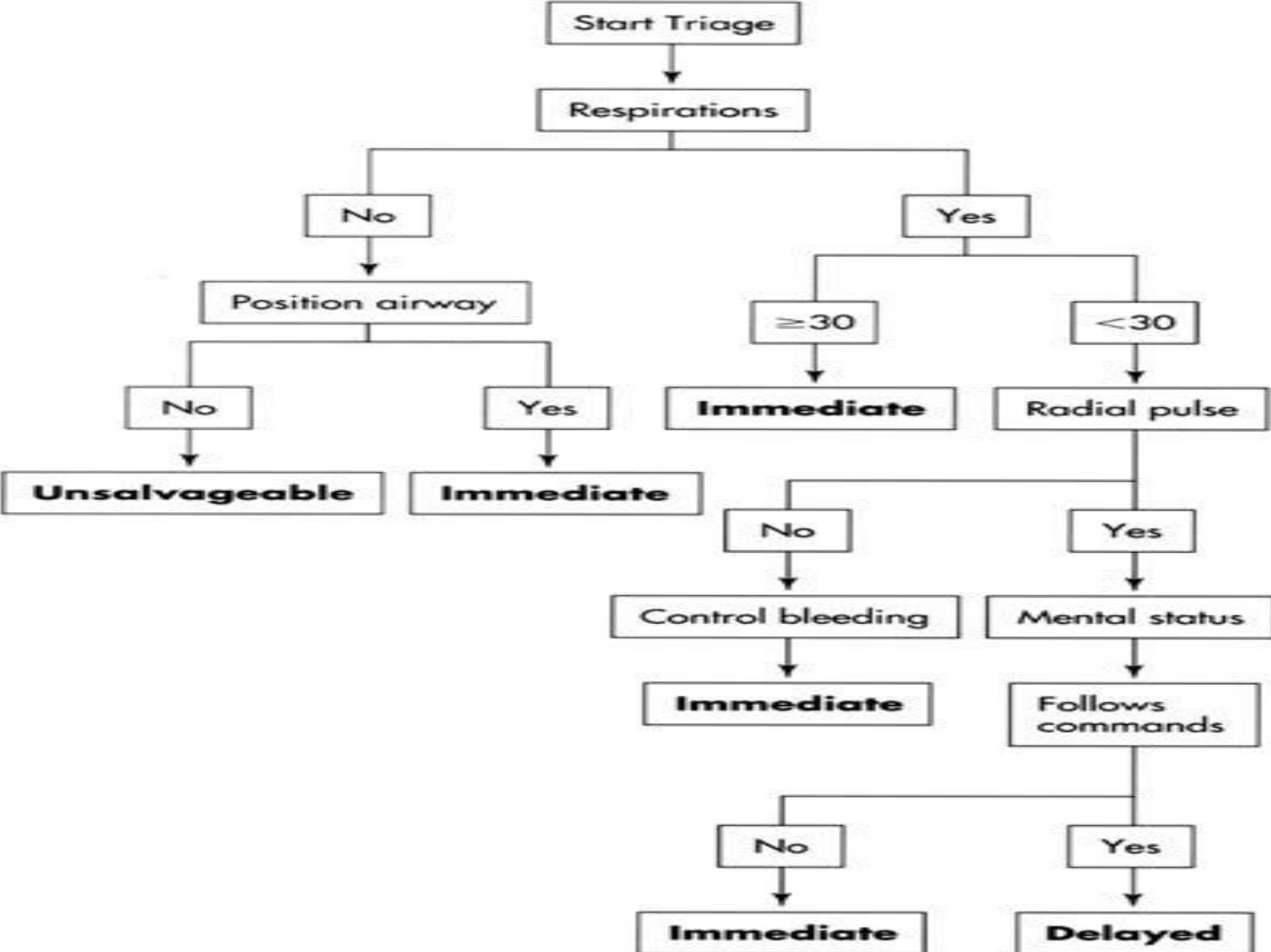


<b>MOI</b>	<b>Forces Involved</b>	<b>Examples</b>
<b>1. Primary Mechanisms</b>	<ul style="list-style-type: none"> <li>• Impact</li> <li>• Acceleration</li> <li>• Deceleration</li> <li>• Crush</li> <li>• Penetration</li> <li>• Thermal</li> <li>• Electrical</li> </ul>	<ul style="list-style-type: none"> <li>▪ Victim thrown into a wall by a tornado</li> <li>▪ Blast wave in explosion</li> <li>▪ Sudden stop in plane crash</li> <li>▪ Victims trapped in collapsed structures</li> <li>▪ Projectiles powered by wind, explosion</li> <li>▪ Burns from fires after earthquake</li> <li>▪ Lightning strikes in storm</li> </ul>
<b>2. Secondary Mechanisms</b>	<ul style="list-style-type: none"> <li>• Asphyxiation</li> <li>• Inhalation (i.e. toxins)</li> <li>• Shock</li> <li>• Exposure</li> <li>• Metabolic</li> <li>• Associated victim specific disorders</li> </ul>	<ul style="list-style-type: none"> <li>▪ Victims trapped in enclosed spaces</li> <li>▪ After hazardous materials spill</li> <li>▪ Secondary to trauma from 1° MOI</li> <li>▪ Victims unable to access shelter</li> <li>▪ Lack of fresh water</li> <li>▪ Diabetics unable to access food or medications</li> </ul>
<b>3. Tertiary Mechanisms</b>	<ul style="list-style-type: none"> <li>• Nutrition</li> <li>• Infection</li> <li>• Renal failure</li> <li>• Cancer</li> <li>• Psychological</li> </ul>	<ul style="list-style-type: none"> <li>▪ Lack of access or spoiled food</li> <li>▪ Untreated injuries, limited antibiotics</li> <li>▪ Consequence of crush syndromes</li> <li>▪ Consequences of radiation exposure</li> <li>▪ Reaction to life-changing events</li> </ul>

# CTAS

Triage level	I	II	III	IV	V
Time to MD	Immediate	15 min	30 min	60 min	120 min
Fractile Response	98%	95%	90%	85%	80%
Admission Rate	70-90%	40-70%	20-40%	10-20%	0-10%





# **Basic components of a hospital disaster plan:**

In the Preparedness / Planning part

**Activation / Notification (when + how)**

**Facility protection (especially for terrorism disasters)**

**Decontamination / Staging area / Evacuation plans / Families care**

**Expansion of services and alternative care sites**

**Supplies and Logistics**

**Resources (Inventory of hospital resources)**

**Personnel (Fan-out, methods of mobilization)**

**Phone #, contacts, etc.**

**Staff education and Training Exercises**

**Command and Control**

**Incident Command System**

**Incident Commander**

**Operations Section with Subdivisions**

**Planning Section (collect and disseminate infos)**

**Logistic Section (provide materials)**

**Finance Section**

**who does what. Structure.**

**Chain of command.**

**Coordination and Communication**

**Media**

# Basic components of a hospital disaster plan:

## Disaster planning:

**CEM: Comprehensive emergency management**

### 1. Pre-disaster phase

**A)mitigation: diminish impact of potential disaster.**

**B)preparedness**

**a)risk analysis,solution generation (See above for things to plan)**

**i) define goals**

**ii)identify and analyses risks and**

**resources**

**iii)brainstorm possible solution**

**iv)Choose the best course of action to**

**accomplish your goals**

## Basic components of a hospital disaster plan:

b)writing plan:

- i)circumstances under which plan is activated
- ii)command structure (authority/responsibility identification)
- iii)response strategy
- iv)estimate of impact on safety
- v)list of essentials info (phone number)

c)testing:

- i) testing functionality
- ii) dissemination
- iii) practice
  - 1)grade 1: orientation seminar
  - 2)grade 2: table type exercise
  - 3)functional exercise
  - 4)full scale exercise
- iv)elucidate.

2. Disaster phase

3. Post-disaster phase.

# Questions ???

