



**Medical Response
Updates**

Handling Mass Casualty & Post Crisis Trauma

Dr Aruna Chala Ramesh MD., DNB., PGDHHM, PhD
Prof & HOD *EMD,*
Ramaiah Medical College & Hospitals



What we will discuss today

- **Overview of Mass Casualty**
- **Key aspects of Field Management**
- **Key aspects of Hospital Management**
- **Post Crisis Trauma**

What we will understand today

- **Incident Command System**
- **Simple Triage**

Scenario 1: 4- Victims RTA, near a PHC

1st -45 male, crush injury
chest, in resp distress

2nd – 26y, 8 months

pregnant unconscious

3rd – 66y, female, # femur,
pale.

4th - Unconscious, bleeding
wound right thigh,
amputation left leg



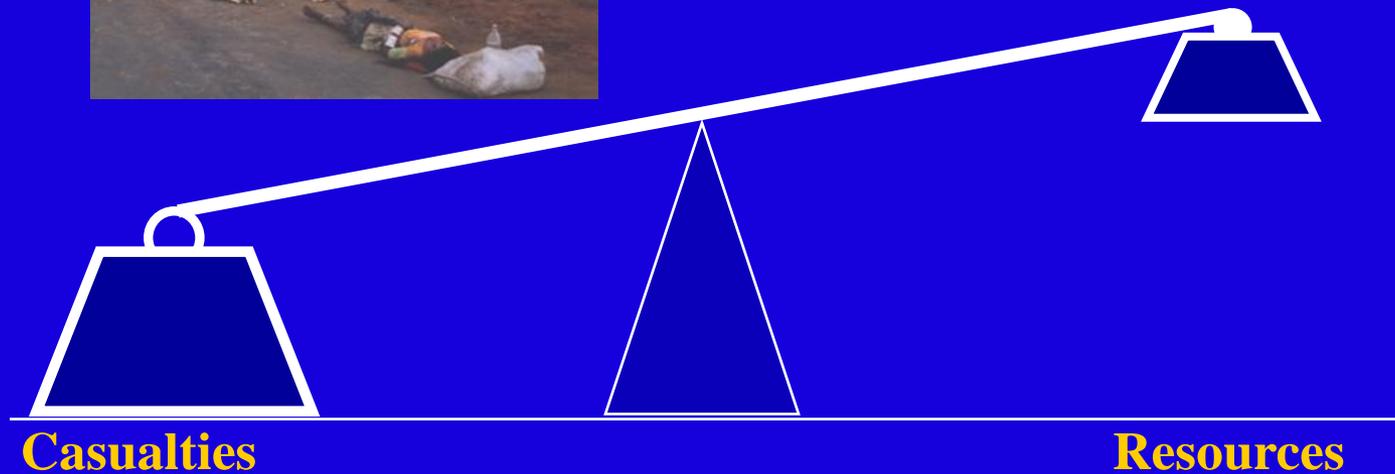
Scenario 1: 4- Victims RTA, near a PHC

Is this an MCI?



“Multiple Casualty Incident”

Scenario 1: 4- Victims RTA, near a PHC



What is the Initial Problem On Scene?

MCI > 3 victims

Resources challenged

R



(P = Patient)



Can I Do the best for each individual?

Scoop and Run



- Most common
- Does not require specific technical ability from rescuers
- Justified for small numbers occurring near a hospital
- May just transfer problem to the hospital

Scenario 2: “Disaster” ?



Disaster = Need > Resources

Common mistakes made by EMS?

Multiple-casualty incidents:

Level 1 (3-10 patients): 2-5 ambulances minimum

Level 2 (11-25 patients): 5-10 ambulances minimum

Level 3 (25+ patients): >10 ambulances, plus alternative transportation (e.g., school bus).

A. Not Calling Early/Not Calling for Enough HELP

Common mistakes made by EMS?



- B. Failure to provide proper triage
- C. Lack of rapid initial stabilization
- D. Failure to rapidly move, collect and organize patients into a treatment area

Failure to provide proper triage! Why?

How are the doctors/HCWs trained?

- BLS, ALS**
- CPR, ACLS, PALS**
- PHTLS, ITLS, ATLS**
- EMT, EMT-I,**
- EMT-CC, EMT-P**

**Patients you
can treat at
one time?**

MCI Approach



- First responders should be trained (basic triage and field care)
- Disregard the receiving hospitals from the field

What Changes When You Have An MCI ?

- What are my resources?**
- How many victims?**
- Which Patient do I treat first?**
- Who can be salvaged?**
- Who gets transported first?**
- Who needs a Trauma/Specialty Center?**
- Who can help care for others?**

Resources overwhelmed

Do the greatest good for the greatest number



R

(P = Patient)

**Incident
Command
System?**

Scenario 3: Fire in School Library



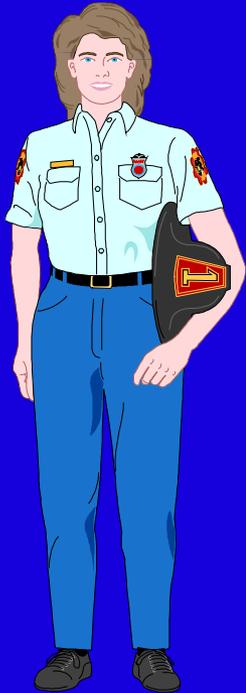
Who is the Incident Commander?

IC- Chief Librarian!



Who is the Incident Commander?

Incident Commander



In Charge

- **ALWAYS** designated at the beginning of each incident
- Person in charge
- Sets priorities and ensures they are met

Whom will she report the fire incident?



Principal



**Who is now the
Incident
Commander?**



Principal

**Librarian?
Now becomes
Chief of
Operations**

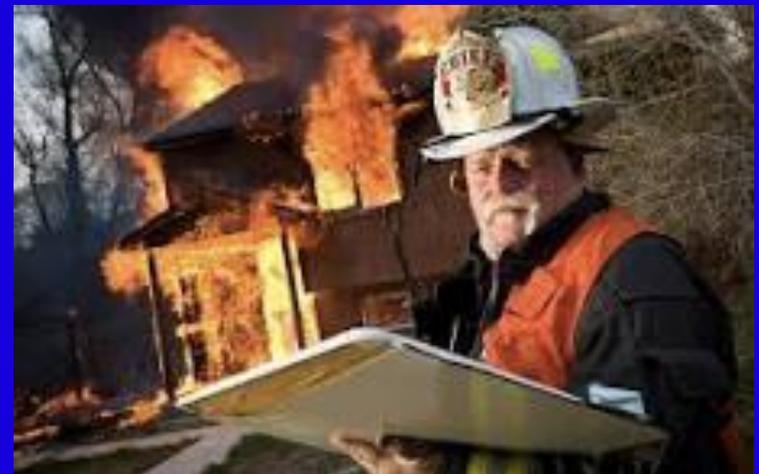


**Whom will the
Principal inform?**



Principal

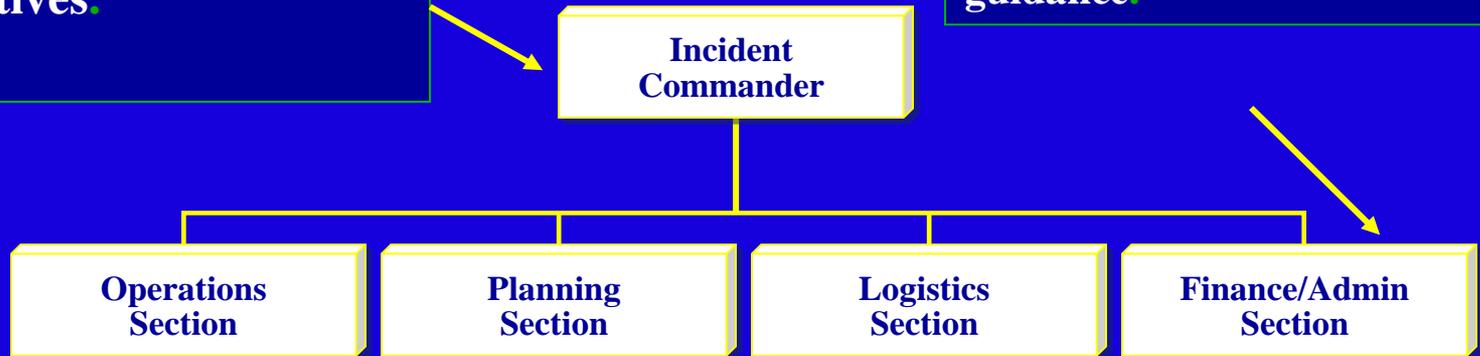
**Fire Chief?
Now who is
incident
commander?**



Who Does What?

Finance/Admin: Monitors costs related to the incident. Provides overall fiscal guidance.

Command: Overall responsibility for the incident. Sets objectives.



Operations: Develops the tactical organization and directs all resources to carry out the Incident Action Plan.

Planning: Develops the Incident Action Plan to accomplish the objectives.

Logistics: Provides resources and all other services needed to support the incident.



> 30 min: Major Incident



ICS Unified Command



> 1hr.30 min:
Major Incident



Normal Working Day



Scenario 4

Message to Bomb Alert –Arrival Belt



Bomb Squad



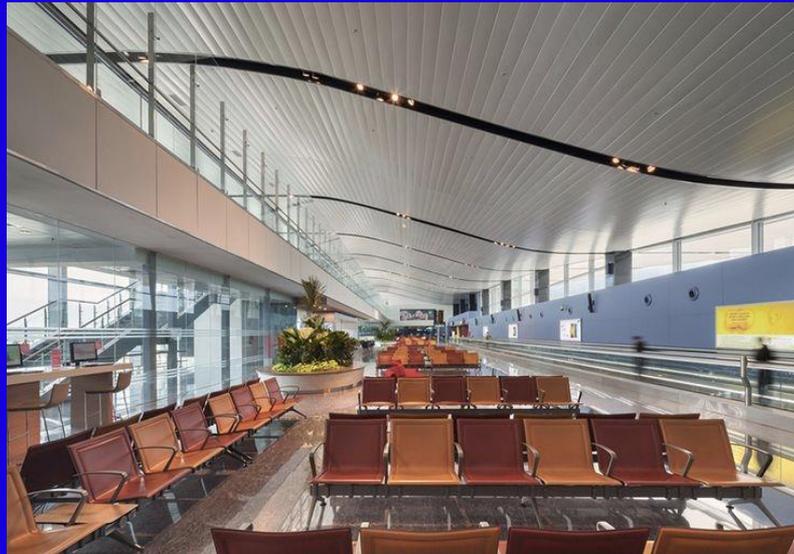
Security Alert



Evacuation Orders



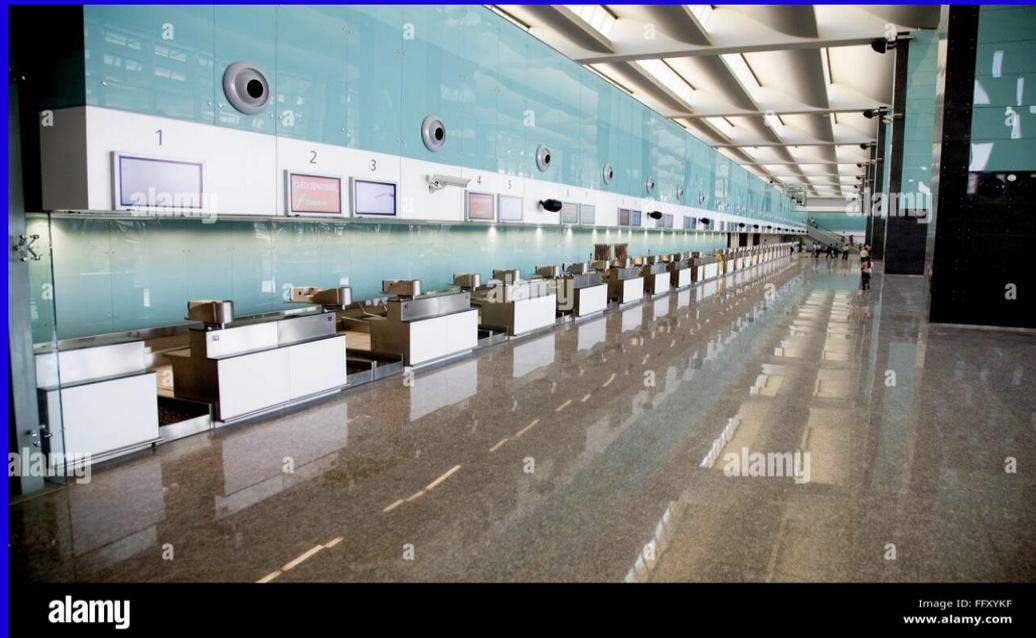
Passenger Areas Evacuated



Passengers to safe area



Check in counters Closed



Set Up ICS



ERT Standby



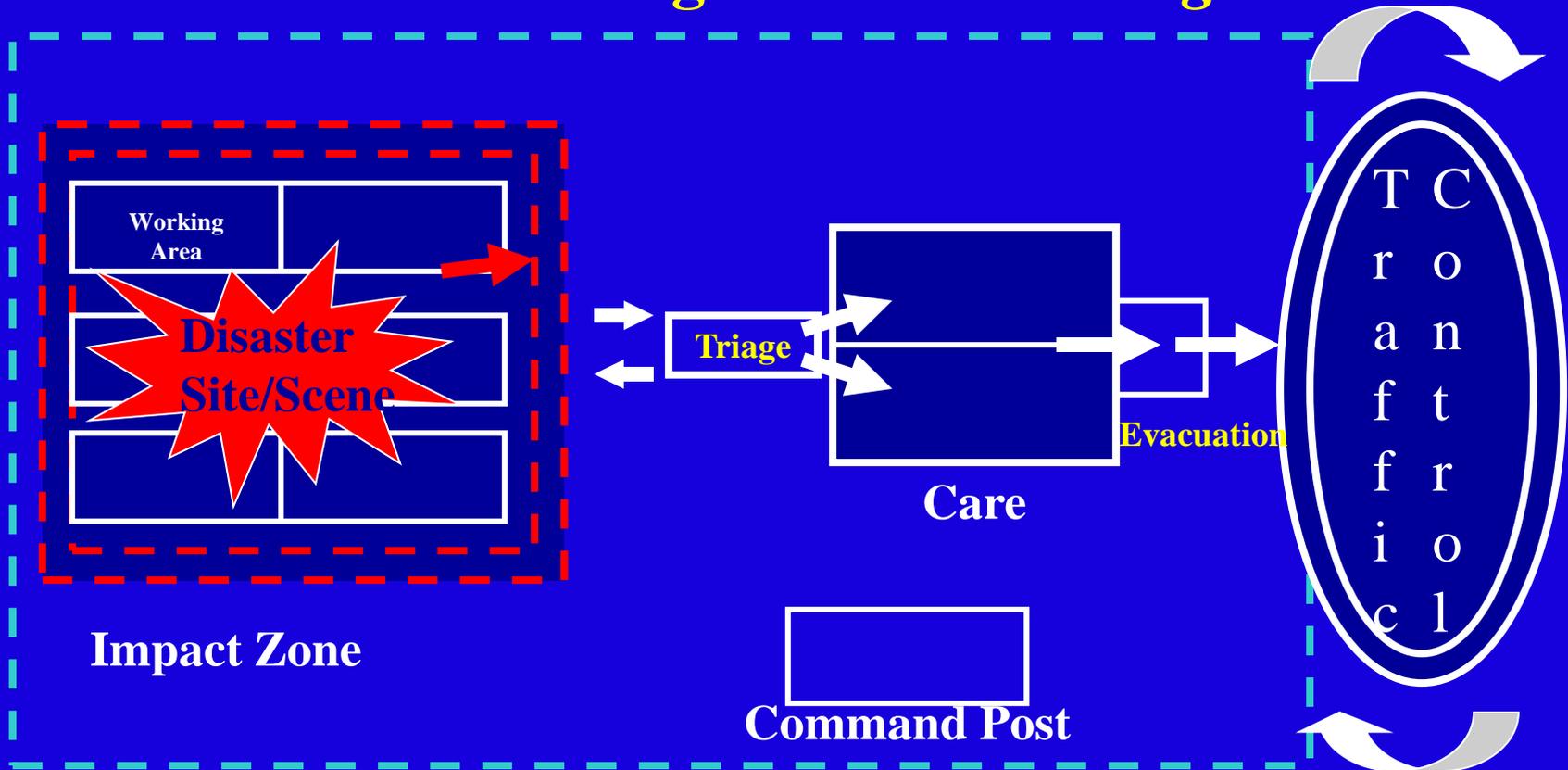
Bomb squad Screen



Explosion



Field Management Plan: *Diagram*



== Strictly Restricted

-- Restricted



Traffic

Access Route



Multi Casualty Incident- Following Explosion Call received



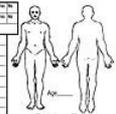
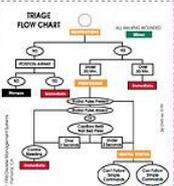
Staging Zone

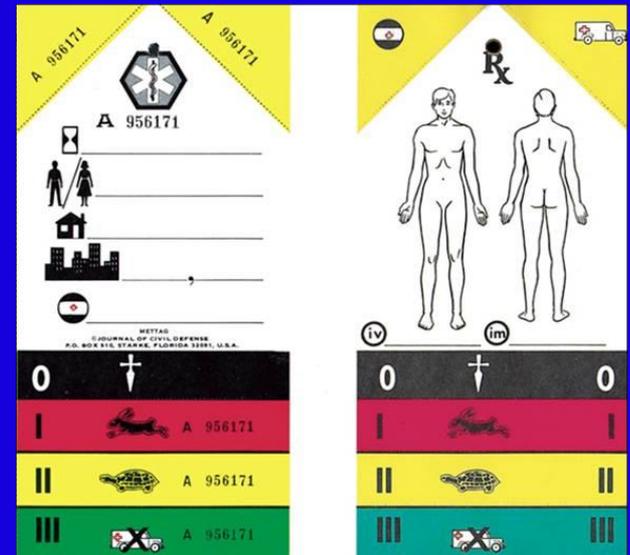


Extrication Team



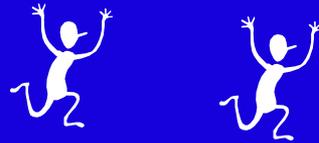
Triage tags

FRONT		BACK	
Personal Property Receipt#	55555	Communications	
Evidence Tag	55555	Communications	
Destination	55555		
Via	55555		
TRIAGE TAG	55555		
Sex/Date Secondary Death Name Birth/Date Race Color Gender Height Weight Hair Eyes Last/Date Admitting/Date Other:		TRIAGE FLOW CHART 	RESPIRATIONS R <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 1-2 Sec <input type="checkbox"/> 3-5 Sec <input type="checkbox"/> Absent <input type="checkbox"/> Normal <input type="checkbox"/> Abnormal
VITAL SIGNS Time BP Pulse Respiration Time Drug/Injection Other		PERUSION P <input type="checkbox"/> Capable <input type="checkbox"/> Cannot <input type="checkbox"/> 1-2 Sec <input type="checkbox"/> 3-5 Sec <input type="checkbox"/> Absent <input type="checkbox"/> Normal <input type="checkbox"/> Abnormal	MENTAL STATUS M <input type="checkbox"/> Oriented <input type="checkbox"/> Disoriented <input type="checkbox"/> Alert <input type="checkbox"/> Comatose
MORGUE Patient/Name/Rooming 55555		MORGUE 55555	
IMMEDIATE Life Threatening Injury 55555		IMMEDIATE 55555	
DELAYED Serious/Non-Life-Threatening 55555		DELAYED 55555	
MINOR Walking Wounded 55555		MINOR 55555	



Classical Approach

COLLECTION AREA
(in unstable condition)



TRIAGE AREA
(color tagging of victims)



TREATMENT AREA
(management and stabilization)

1st



2nd



3rd

PRIORITY III

PRIORITY II

PRIORITY I

T R A N S P O R T A R E A



On-site T:

- Acute
- Non-acute



- Yellow
- Green
- Black

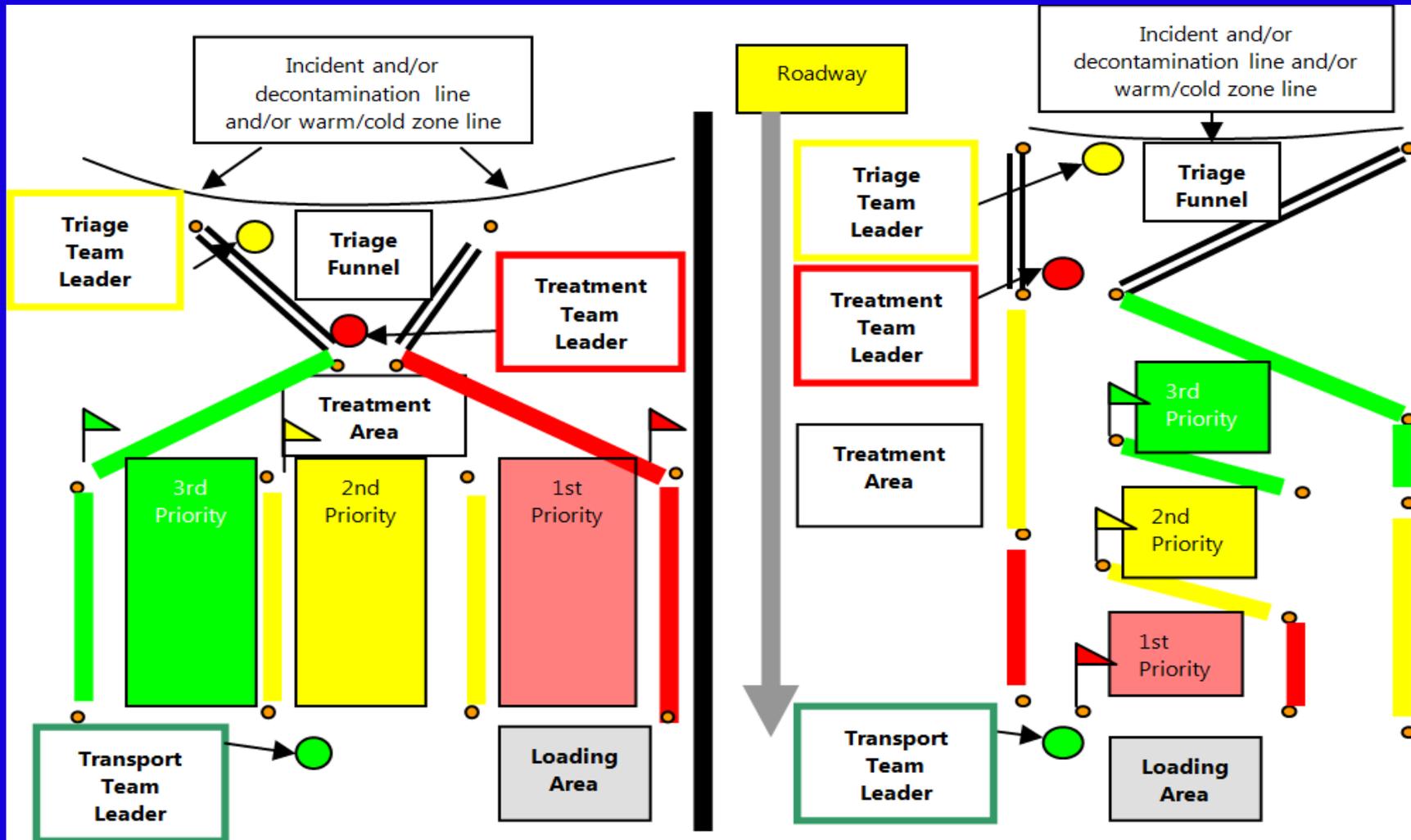


Evacuation T - transport:

- Red
- Yellow
- Green
- Black



Quickly result to chaos



Teams at work



Black Victims



Handling of Dead

Evaluate and document the condition of the remains, including:

1. Complete remains.
2. Fragmented remains.
3. Burned remains.
4. Decomposed remains.
5. Commingled remains.
6. Any combination of the above.

Loading/Dispatch Team





Basic Disaster Life Support



- MASS Triage
 - Move
 - Assess
 - Sort
 - Send



	Activity	Time	Personnel
M	Move	7 min	
A	Assess	12 min	10
S	Sort	46 min	17
S	Send	38 min	8
Total			1.28 Hrs





Traumatic Stress Reactions Following Mass Casualty Incidents

VICTIMS AND SURVIVORS

Primary survivor – One who is exposed to the disaster first-hand.

Secondary survivor – One who has lost a kith/kin as primary victims.

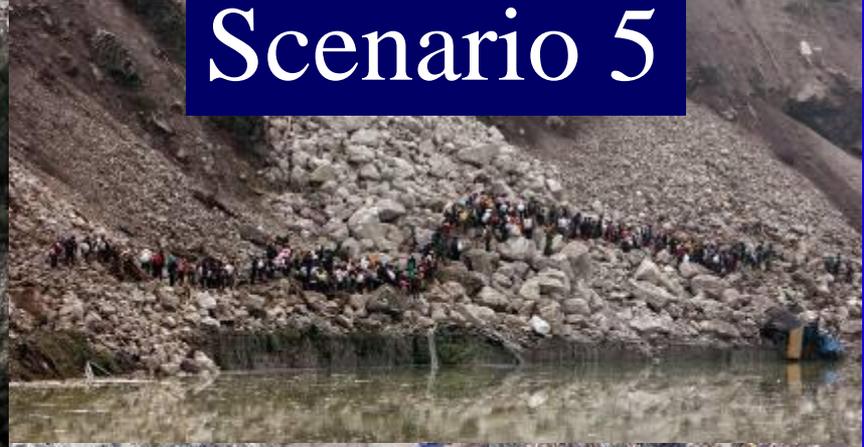
Third level survivor – The rescue and relief personnel.

Fourth level survivor – Reporters, Government personnel, traders,

Fifth level survivor – People who read about or see the event in media reports.

Post Traumatic Stress Disorder differs from **Critical Incident Stress** by lasting longer than four weeks after the event triggering the emotional, mental or physical response.

Scenario 5



Cities close to the epicenter are flattened;
whole mountains collapsed in China



A rescue worker found his mom's cell phone in his wrapper. It had a text message left by his mother:

“Dear child, if you survive, please remember, Mom loves you forever...”

*How can the PTSD Stigma
be addressed?*

What are some signs of critical incident stress?

PHYSICAL	COGNITIVE	EMOTIONAL	BEHAVIORAL	PHYSICAL
Fatigue	Uncertainty	Grief	Inability to rest	Fatigue
Chills	Confusion	Fear	Withdrawal	Chills
Unusual thirst	Nightmares	Guilt	Antisocial behavior	Unusual thirst
Chest pain	Poor attention	Intense anger	Increased alcohol consumption	Chest pain
Headaches	decision making ability	Apprehension and depression	Change in communications	Headaches
Dizziness	Poor concentration, memory	Irritability	Loss/increase in appetite	Dizziness
	Poor problem solving ability	Chronic anxiety		



There are three key aspects to a post-incident response:

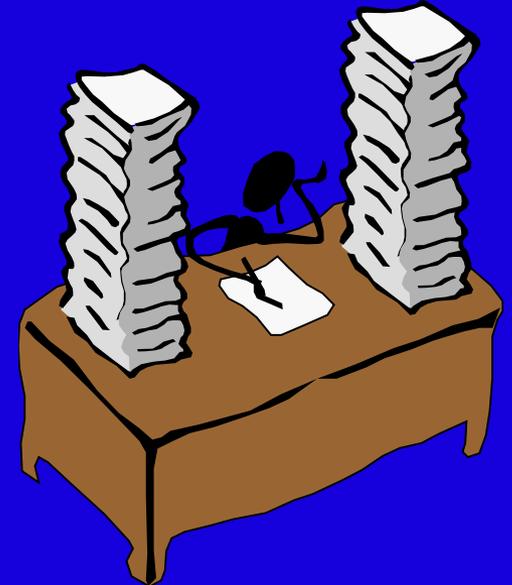
Debrief / Hot wash

After-Action Reports

Participants Wellness programs

PREPARE A REPORT

- **Accident Reports should contain the following:**
 - **Description of incident and injuries**
 - **Sequence of events**
 - **Pertinent facts discovered during investigation**
 - **Conclusions of the investigator(s)**
 - **Recommendations for correcting problems**



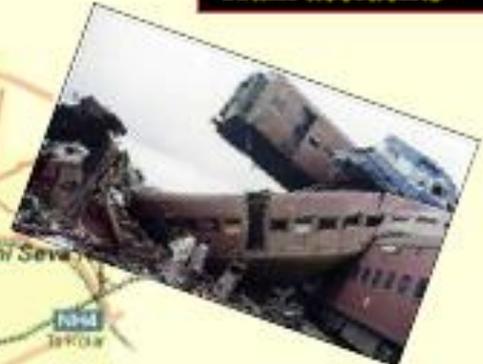
Are We Prepared ?

DISASTERS Subject Guide BANGALORE

Airplane accidents



Train accidents



MASS CASUALTIES

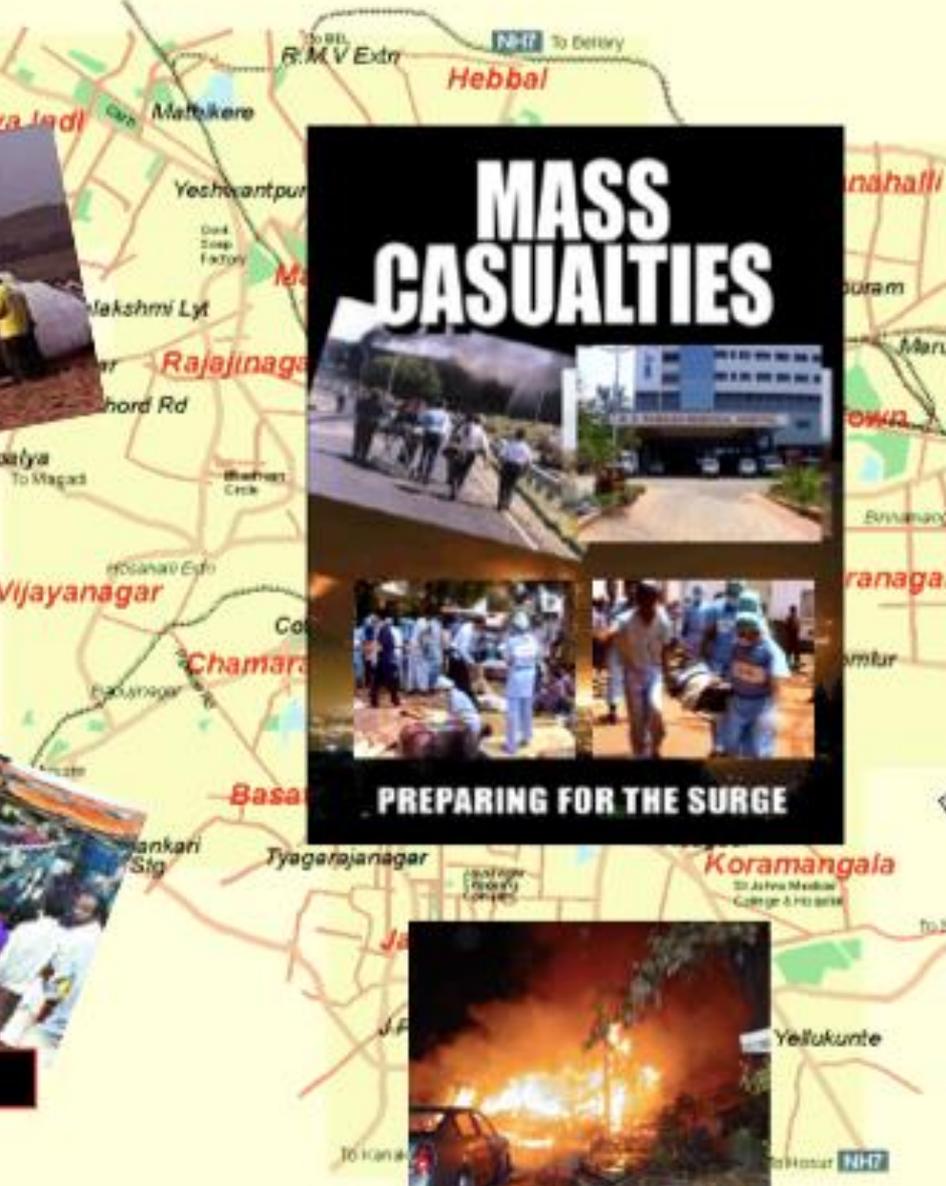
PREPARING FOR THE SURGE



Motor vehicle crashes



Building collapse



Components of Disaster Management

- Hazard Analysis
- Vulnerability Analysis
- Prevention and mitigation
- Preparedness
- Prediction and warning
- Response
- Recovery

Hospitals are Facing New Threats



Current State of Preparedness



Biological Threats

Surge of Patients



Hospital Preparedness in Disaster



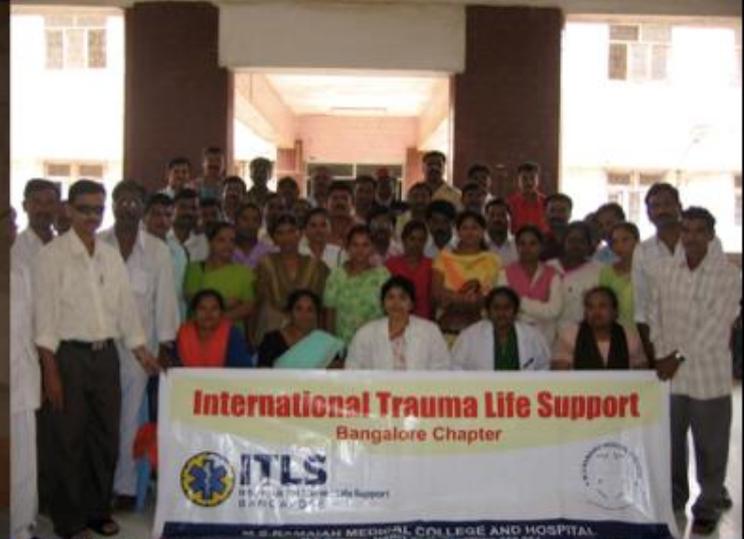
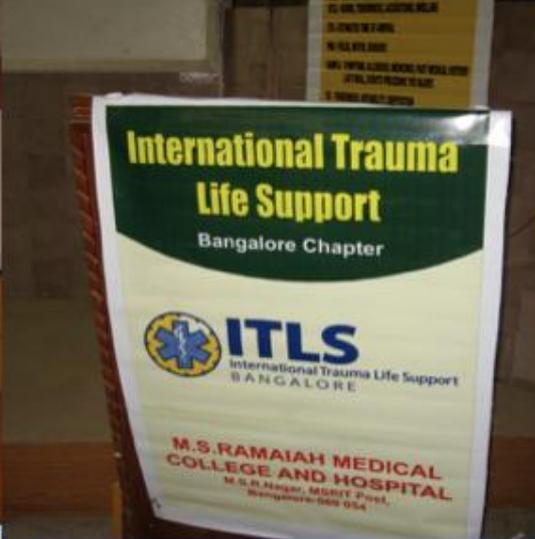
Hospital Response Teams



TRAINING

- You need to train
- The Doctor's.
- The Paramedics
- Police, Fire Brigade, Home guards
- Community
- School & College Students







Conclusion



**The challenge is NOT to be innovative
in a crisis.**

**The challenge is to be well-trained
and well-disciplined enough to
FOLLOW THE RULES!**

Disaster Management

SAVING LIVES



Miles to goooo



What to join our efforts.....



To be prepared!

International Airports Fire Chief
Workshop:

Thank you