

Code red

Code yellow

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*An NABH accredited
institution*

- Code red

- Fire alert

Causes of Hospital Fire

- *Smoking*
- *Contractors carelessness*
- *Carelessness of hospital staff*
- *Defective equipments*
- *Visitors carelessness*

Critical areas

- *Operation theatre*
- *Manifold room – because of different type of medical gases*
- *ICUs*
- *Emergency*
- *Kitchen*
- *Radiology department*
- *Stores etc.*

Elements of Fire Safety

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graph TD; A[Elements of Fire Safety] --> B[1) Prevention]; A --> C[2) Detection]; A --> D[3) Containment]; A --> E[4) Evacuation]; A --> F[5) Extinguishment];
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1) Prevention

2) Detection

3) Containment

4) Evacuation

5) Extinguishment

Prevention

- *Detection & correction of the hazards*
- *Fire control planning*
- *Well rehearsed fire drills*
- *Design & specification considerations*
- *Employee training*
- *Periodic equipment testing*

Types of fire

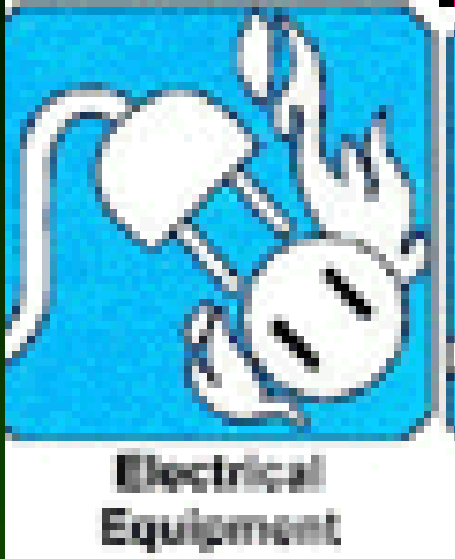
- A
- B
- C
- D



Class A - Wood, paper, cloth, trash, plastics



Class B - Flammable liquids: gasoline, oil

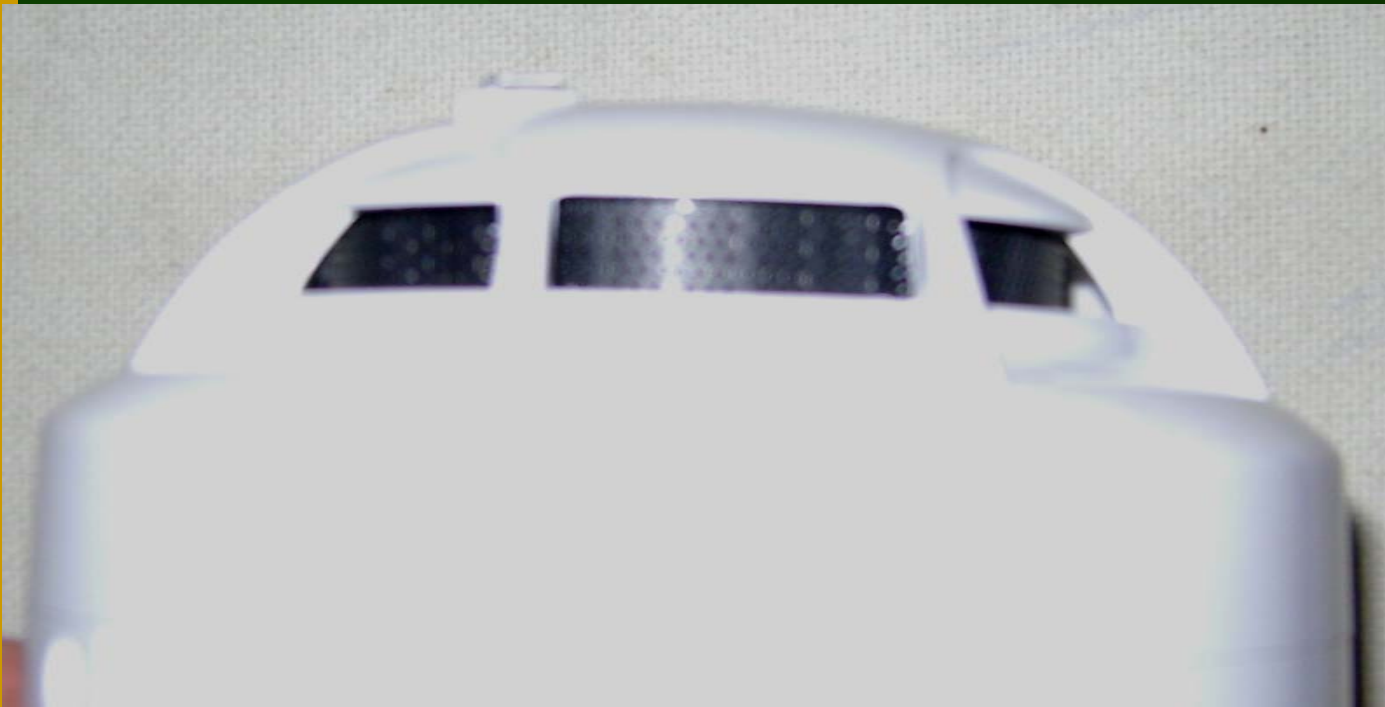


Class C - Electrical: electrical equipment



Sensors

Heat
sensor



Smoke
sensor



At floor level



Main panel



Wet rinser system



Alarms



MANUAL SYSTEM



Fire extinguisher

- **ABC** - This is the multipurpose and most widely used dry chemical extinguisher and is suitable for Class A, B, and C type of fires. The ABC type is filled with Monoammonium phosphate powder.
- Sometimes carbon dioxide based.

Method of using the fire extinguisher

P-Pull the pin

A-Aim low (at the base of the fire)

S-Squeeze the handle

S-Sweep from side to side



BC - This is the regular type of dry chemical extinguisher. It is filled with sodium bicarbonate or potassium bicarbonate.



Water hydrant

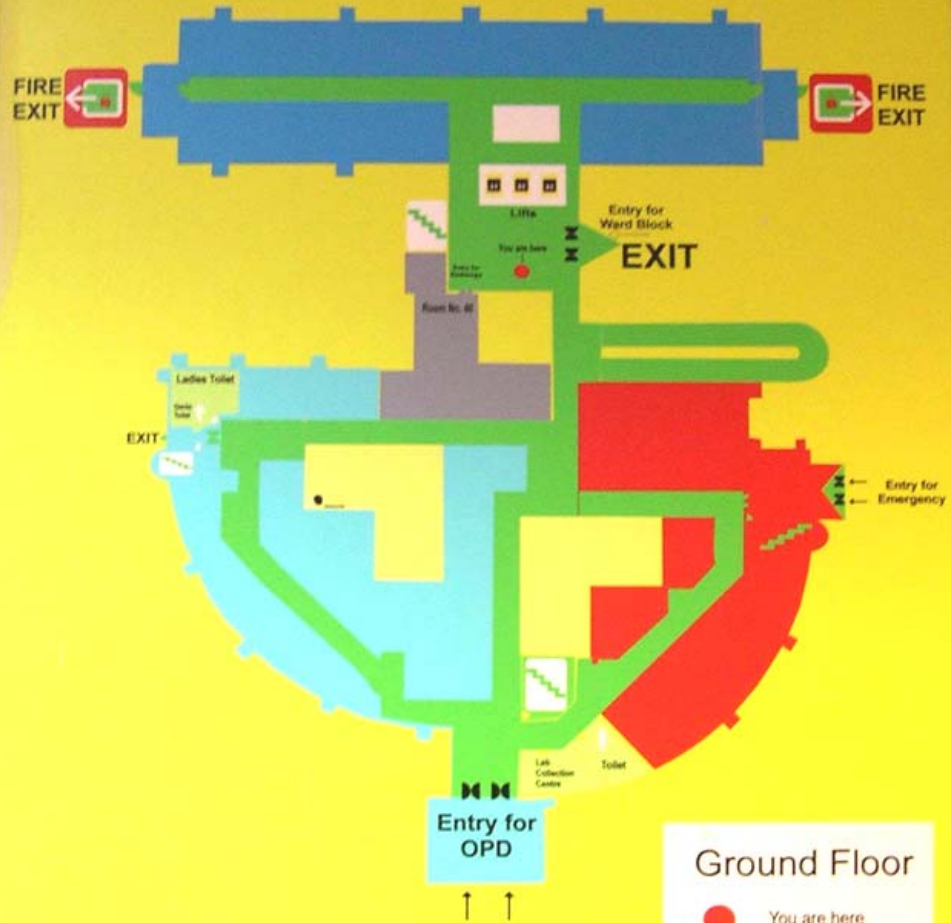
Employee Reaction

- *Save & Alert* - Sound the alarm & save patients /persons if in immediate danger
- *Vent* - close the door & windows to keep fire contained
- *Evacuate* –use evacuation routes
- *Extinguish* –fire extinguisher equipment

Fire Safety Training

- *Regular training to hospital staff like doctors, nurses, attendants etc.*
- *Floor plan should be available on each floor*
- *Each employee must know following things through training :-*
 - *Important phone no.*
 - *How to rescue patients in case of fire- “alert and act”*
 - *Handling medical equipment – “Move me out first”*
 - *Escape routes in case of fire*
 - *Use of fire extinguishers*

GROUND FLOOR EXIT PLAN



Ground Floor

- You are here
- Emergency Block
- OPD Block
- Admn. Block
- Radiology
- Lifts
- Exit Ways
- Fire Exit



अगनि निकास
FIRE EXIT





निकास



आग लगने पर
IN CASE OF FIRE

आग लगने पर लिफ्ट
DO NOT USE LIFT

आग लगने पर
USE STAIRS

FIRE LIFT



G
FLOOR
भूतल
GROUND FLOOR









Alarm

Save yourself & occupants

Close doors

Evacuate/ Extinguish

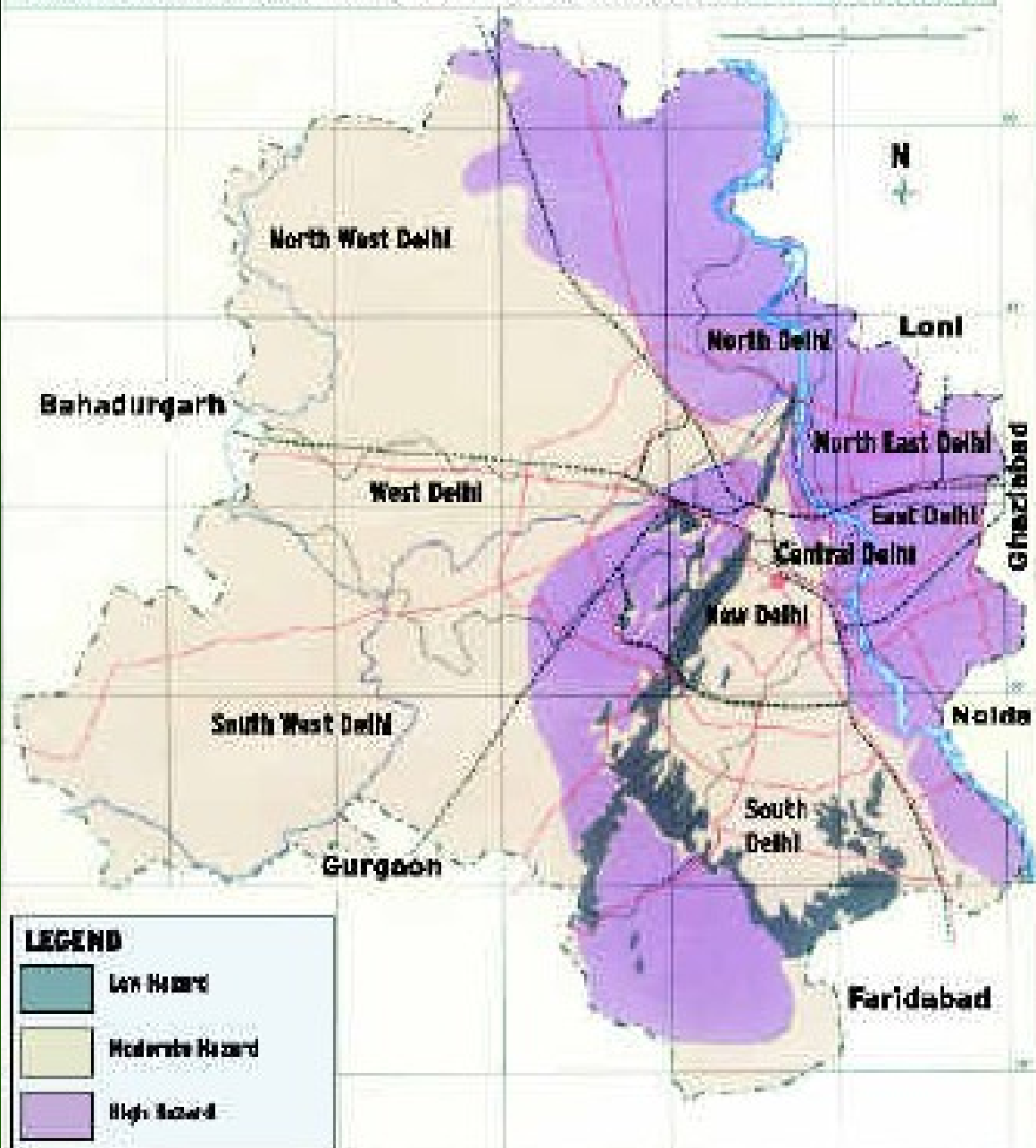


- Use commonsense

Code yellow-
disaster alert

External disaster

FIRST LEVEL SEISMIC HAZARD MICROZONATION MAP OF NCT, DELHI



EAST
DELHI-
Seismic
zone III













Laxmi Nagar 2010

Internal disaster





Gujrat, 2001



Costa Rica Hospital, China 2005

Definition of Disaster

- **WHO- Sudden
ecologic
phenomenon of
sufficient magnitude
to require external
ASSISSTANCE**

Aim of Hospital Disaster Plan

- To provide prompt and effective medical care to the largest number of people needing that care in order to bring about early recovery and reduce the death and disability associated with the disaster incident.

Identify DISASTERS for your region

Your resources

Your preparedness

NATURAL

- EARTHQUAKES
- FLOODS

MAN MADE

- MOTOR, RAIL, METRO, AIR ACCIDENTS
- POISONING
- CONFLICTS
- TERRORISM

NO PREPAREDNESS FOR

- HAZMAT SPILLS

Network hospitals

- LNJP Hospital
- GTB Hospital
- Sushrut Trauma Centre

Disaster Management Committee

- **Medical Superintendent - Chairman**
- **Head of all Clinical Departments**
- **Nursing Superintendent**
- **Blood Bank Officer**
- **M.O I/c Transport**
- **M.O I/c Security**
- **M.O I/c Sanitation**
- **Dietician**
- **Officer In-Charge PWD**
- **Medical Officer – Emergency**
- **Administrative staff**

Treatment areas identified

- **Emergency O.T** - Immediate surgery
- **Observation room in emergency** - Holding area for surgery and transfer patients
- **PICU/NICU** - Life-support care
- **X-ray department /OPD area** - Walking wounded, waiting for care
- **Waiting hall in front of Registration counter** - Overflow for walking wounded
- **Direct hospital admissions** - Major medical problems

Limits

Number of paediatric casualties	Immediate care 20%	Delayed care 30%	Minor care 50%
30	6	9	15

Triage Categories

- Red
 - First priority
 - Most immediate
 - Life threatening shock or hypoxia is present, but the patient can be stabilized and if given immediate care, will probably survive

Triage Categories

- **Yellow**
 - Second priority
 - Urgent
 - Injuries have systemic implications or effects, but patients are not yet in shock/hypoxia. Although systemic decline will develop, given appropriate care they will be able to withstand a 45 - 60 minutes wait without immediate risk

Triage Categories

- Green
 - Third priority
 - Non-urgent
 - Localized injuries without immediate systemic effects with a minimum of care, these patients generally do not deteriorate for up to several hours
 - “Walking wounded”
 - These patients are directed to walk away from the scene to a designated safe area
 - These patients can also be utilized to control severe bleeding and assist in maintenance of patent airways of those “IMMEDIATE” patients who require it.
- Black- Dead

36265

गोता काली
CHACHA
 GEETA C
 रोगी सम्बन्धी

नाम
 Name
 वार्ड
 Ward

88954

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 CAL NOTE

आयु
 Age
 बिस्तर
 Bed

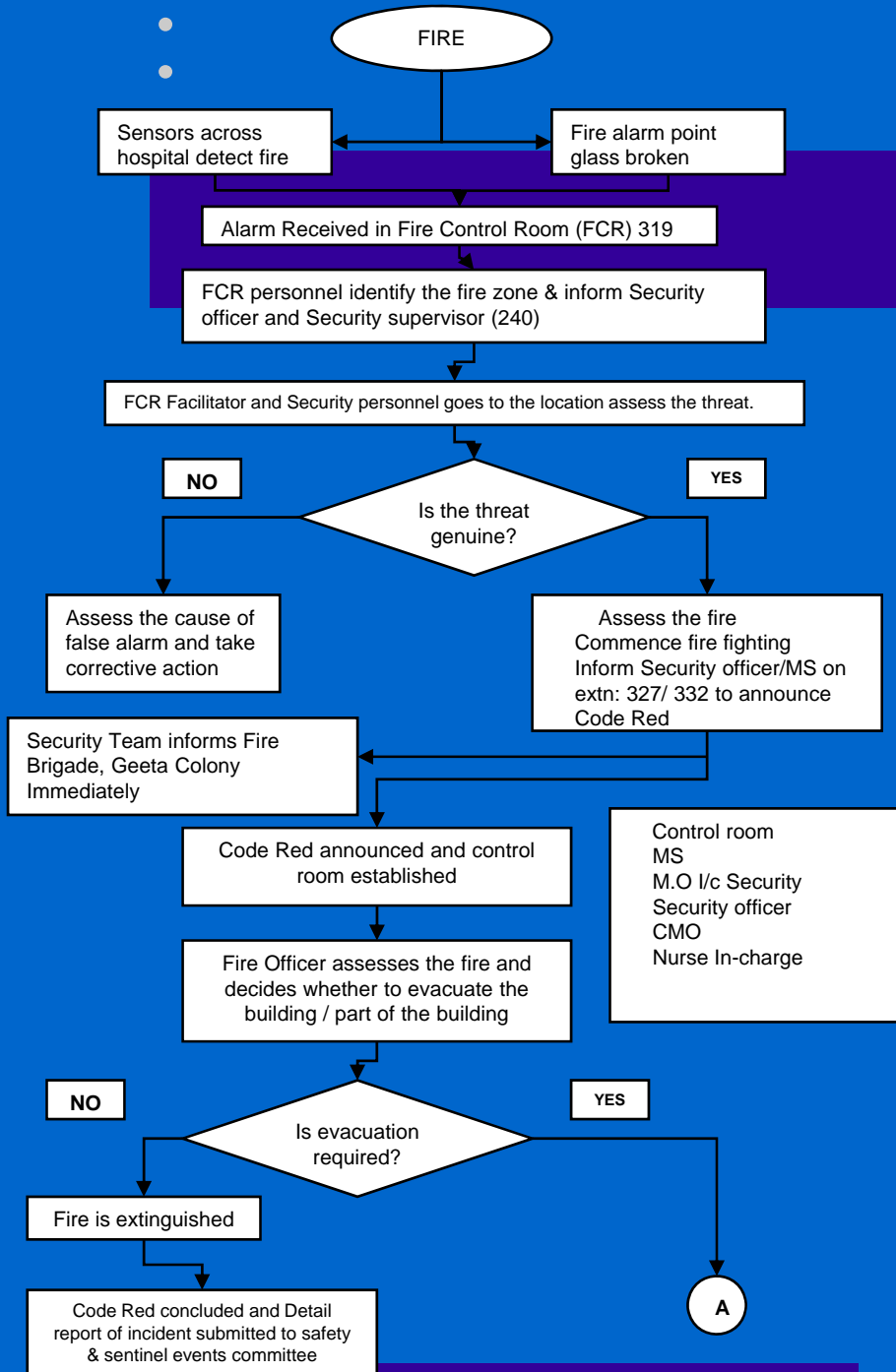
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Internal disaster



Internal disaster- evacuation plan

A

Fire Officer orders evacuation.
Telephone operator announces Evacuation. Security Team informs Fire Brigade,
Police, neighboring Hospitals & ambulance services.

Evacuation & accounting of patients is the responsibility of Nurse
In-Charge.
Evacuation of other humans & accounting of kitchen and
Housekeeping staff is the responsibility of Security officer.

Patients are evacuated and brought to the Triage area (Front of ward
block area). Ambulance is placed next to emergency ward entry.

After triage the patients are disposed off as follows:
Priority 1: Evacuate to the nearest Hospital with facilities
immediately.
Priority 2: Discharge to home.

Code red is concluded when:
All patients are evacuated, accounted for and disposed off.
All other human beings (Patient attendant / Visitors / Hospital Staff are
evacuated and accounted for.
All important marked equipments / Records to be accounted
Fire brigade and Police personnel have arrived and taken over the
situation.

EARTH QUAKE

ACCIDENTS

FIRE

External disaster

CASUALTY OFFICER

MEDICAL SUPERINTENDENT

INFORM

DIRECT OR SPL. SEC Y Health POLICE

FIRE SERVICE PWD

ALERT

LNH/TRAUMA CENTRE DISTRICT AUTHORITIES SECURITY VOLUNTEERS PLANNING OFFICER COMMUNICATION OFFICER NURSING OFFICER HOD DEPARTMENTS STORE OFFICER PROCUREMENT OFFICER

ACTIVATE

COMMAND OFFICER

ASSISTANT COMMAND OFFICERS

NURSING SUPERVISOR

ACTIVATE EMERGENCY TEAM TRIAGE OFFICER CATS SERVICES

RESOURCE MOBILIZATION STAFFING POOL ALT. TRIAGE AREA STANDARD OPERATION TREATMENT PLANS FOOD & SUPPLIES PUBLIC FACILITIES STORAGE OF BODIES TRANSPORTATION OF BODIES TO IDENTIFIED MORGUE

REVIEW OF SITUATION STATUS CENSUS CONTROL

MEDIA OFFICER

RELEASE INFORMATION TO MEDIA & PUBLIC

MS COMMAND OFFICER

REPORT TO HIGHER AUTHORITIES

Command

centre

&

Action cards

**Initial Allocation of Medical Staff by command officer.
Numbers in Right-hand Columns refer to Order in which
Action Cards are Handed Out.**

	Department	Facility	Consultant/ senior resident	Nursi ng staff
First Priority	Accident and emergency	Triage	1	1
		Resuscitation	2,3	2,3
		Accident and emergency ward	4,5	4,5
		Disaster ward	6,7	6,7
		Rescue team	8	8
	Theatres	Emergency operation theatres	9	9
Second priority	Receiving wards		10	-

Numbers to be repeated in this sequence.

CNBC DISASTER ALERT ACTION CARD

Telephone Exchange

Alerting Procedure

On receiving a message from the Local authorities/ Police "PRIORITY-DISASTER ALERT," write the message down and record the time.

Immediately pass the message to:

MEDICAL SUPERINTENDENT/ MO I/C Security/ Command officers

THE CASUALTY MEDICAL OFFICER ON DUTY

THE SENIOR NURSING STAFF/ SUPERVISOR ON DUTY.

Confirm the call.

Action card

- On receiving a message from the MEDICAL SUPERINTENDENT/ MO I/C Security (or deputed personnel),

"CARRY OUT FIRST STEP OF DISASTER MANUAL INSTRUCTIONS. Call the following staff in order, crossing off the name as contact is made, and recording the time of each message.
- Use the following message:
- For *external calls*- This is CNBC Hospital. There has been a Disaster alert, please come at once.
- For internal calls-There has been a Disaster alert, please report to the command centre.

Each message should be repeated once, and the operator should ring off.

1. Sister in charge of Accident and Emergency Department "Disaster alert".

2. ANS

3. Secretary to MS

4. Security Officer "Disaster alert".

5. Nursing orderly supervisor "Disaster alert".

6. Security supervisor on duty

7. Other security supervisors

8. Doctors of quick response team

9. Nursing Staff on call

10. Other nursing Staff and Sisters

11. Duty radiographer and other technicians

12. Duty laboratory technician

13. Medical records officer

14. All Consultants and MO I/c

15. Pharmacy staff

16. Stores staff

17. Dietician

18. Purchase officer

19. Office staff

20. All other doctors

Action cards

Consultant/Senior Resident

Number

Go to the Accident and Emergency
Department RESUSCITATION ROOM.

Treat patients needing immediate attention.

When resuscitation adequate, inform sister
who will organize patient's disposal.

When relieved, report immediately to the
Command Officer in the Command Centre.



RESCUSITATION
BED

17

Mock drills – Fire/ disaster

- **Site of fire**
- **Telephone attendant**
- **Emergency ward**
- **Disaster ward**
- **Fire control room**
- **Security staff**
- **Fire equipments & public announcement system**
- **Fire brigade personnel**

A prepared
community is a
safe community.

Questions

