Emergency Preparedness at Country Level: The South African Experience

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South Africa is free of natural and man-made disasters

No recent exposure nor expectation of major foreseeable disasters in RSA

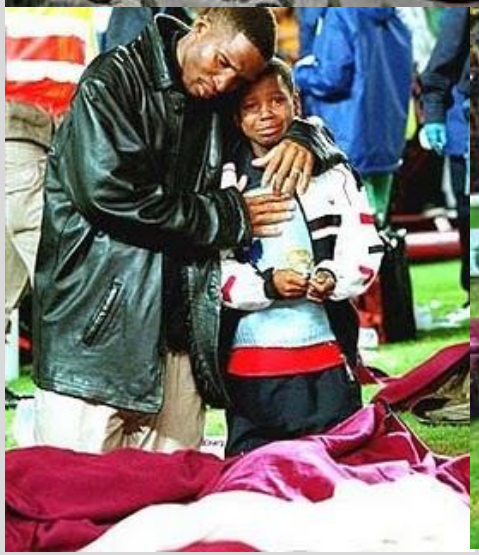
- Asia, South America, Europe: earthquakes, floods, terrorist attacks
- All tropical belts: cyclones, hurricanes, terrorist attacks
- Middle East, Europe, Caucasus: suicide bombings, wars, genocide, earthquakes
- Australia, USA: Terrorist attacks, fires, floods

No worries about disasters until 2010 FIFA World Cup in South Africa

SOCCER, THE BEAUTIFUL GAME!

2001 ELLIS PARK JOHANNESBURG: STAMPEDE KILLS 43

100 000 IN STADIUM FOR 46 000



2010 SOCCER CITY: 96 000 Spectators
1 800 Potential Disaster Casualties!!

CHBAH Disaster Plan Preparedness

1. **Administrative Commitment**	✓ **Weekly meetings since mid 2009**
2. **Clinical Divisions Commitment**	✓ **High level agreements on clinical cooperation**
3. **Inexpensive In Service Training**	✓ **Free in house inter-professional training**
4. **Development of cheap disaster bags**	✓ **<$125 RED,<$ 65 YELLOW <$ 30 GREEN**
5. **Support from corporate sponsors**	✓ **Sponsorship by banks, pharmaceutical industry**

Aim of the Disaster Plan at CHBAH

- Ability to manage up to 350 casualties
  - 50 “Priority 1” Red patients
  - 100 “Priority 2” Yellow patients
  - 200 “Priority 3” Green walking wounded
  - Arriving within 2 hours
  - Managed unassisted for 72 hrs.

Types of external disasters

- **Stadium collapse**
- **Stampede, falls from height**
- **Bus accidents**
- **Public building fires**
- **Multiple stabbings and shootings**
- **Train accident**
- **Plane crash**

- ***?? Terrorist attacks/ Suicide bombings***

- ***????????????????? CBR***

Meadowlands, Soweto
May 2011 Train Crash

- 659 patients presented at the hospital
  - Most with minor injuries
- **351 were admitted**
- 2 critical patients air-lifted to CMJAH from the scene

AIM OF DISASTER TRAINING AT CHBAH: AVOID DISASTER RESPONSE DISASTERS!

- No disaster training, no drills
- “Limited disasters” not called when they should
  - Used to compromised patient care Vs. NOT RECEIVING more resources and manpower
- Trauma training needed for everybody:
  - CHBAH receives “disasters” all the time
  - Preparation for FIFA World Cup only one example
  - Meadowlands Train Disaster: Disaster plan in place, but no nurses!
  - 2010 Public Servant Strike Disasters: staff desertion!

3 Levels of Trauma Disasters at CHBAH

- **Level I: Code Yellow**
  - 5-10 resuscitations in 1-2 hours
    - Called almost weekly
  - Managed by on call/ on cover trauma team
  - House fire, bus accident, multiple shootings
  - May be single victims from different sites
- **Level II: Surgical Code Red**
  - 10-30 major trauma resuscitations: activation of entire surgery department
  - Construction site collapse, explosion, major traffic incident
    - 857 patients Train Crash May 2011
- **Level III: General Code Red**
  - Over 30 major trauma or burns cases: requires mobilization of entire hospital
  - Stadium collapse, terrorist attack, plane crash, hotel fire, earthquake, etc

Is This a Disaster or Just A Busy Week-end?

TRIAGE→RESUS→E-FAST→STATSCAN→TREATMENT→STAY....STAY....

Emergency Departments Resources

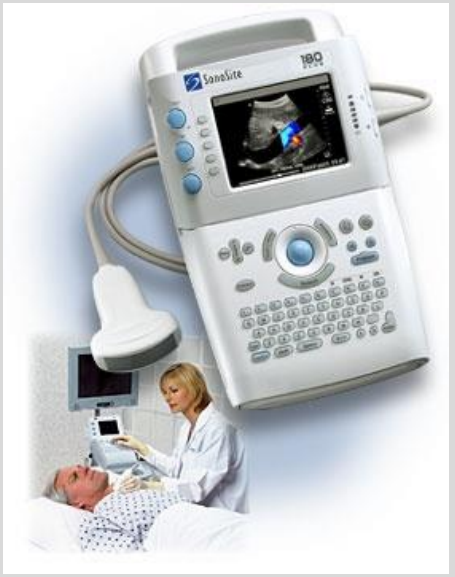
- Trauma Resuscitation Room and ED
  - 15 Resus bays, 32 Ventilation points
  - 11 ventilation ready cubicles
  - 1 minor ops OT, 1 MUA and POP OT
- Medical Resuscitation Room and ED
  - 5 Resus bays, 10 Ventilation points
  - 15 Cubicles, 5 ventilation ready
  - 2 minor ops OT
  - 20 bed short stay ward→ Disaster ICU

Non surgical divisions in Trauma Disaster

- **Internal Medicine:**
  - Look after surgical and orthopaedic patients
  - Be part of resuscitation teams
  - Supplement ICU
  - Perform E-FAST exams
- **Obstetrics & Gynaecology:**
  - Perform E- FAST
  - Be part of resuscitation teams
- **Paediatrics:**
  - Be part of resuscitation teams
  - Look after patients
- **Psychiatry:**
  - Look after non disaster surgical patients
  - Be part of resuscitation teams

May 2010: Ultrasound courses for everybody:
TRAUMA DISASTER
E-FASTs BY O&Gs

1 X-RAY film:
2 minutes to develop
1 E-FAST examination:
30 seconds



LODOX STATSCAN BY DOCTORS: WHOLE BODY 13 SECONDS

INTRODUCTION	TIME.....DATE.....		
PATIENT DATA (STICKER) Name ..... HRN .....Age.....Sex ..... Wards ...../...../ ...../ ...../ ..... Date of Admission dd/mm/yy	NAMES OF ADMITTING TEAMS		
	Title	Surgery	Others
	Consultant		
	Registrar		
	JMO/RMO		
PATHOLOGY			
DIAGNOSIS ON ADMISSION 1 ..... 2 ..... 3	COMORBIDITIES AND OTHER PROBLEMS 1 ..... 2 ..... 3		
OBSERVATION			
CLINICAL ASSESSMENT 1 ..... 2 ..... 3	VITAL SIGNS, RELEVANT LABS, X-RAYS V.S. ..... LABS ..... X-RAYS		
BACKGROUND			
RELEVANT HISTORY Mx ..... Sx ..... Habits ..... Family	ALLERGIES 1 ..... 2 ..... 3		
AGREE TO THE PLAN			
PLAN FROM PREVIOUS SHIFT OT ..... X-Rays ..... LABS ..... Consults ..... Discharge ..... Other	PLAN FOR NEXT SHIFT OT ..... X-Rays ..... LABS ..... Consults ..... Discharge ..... Other		
CHECKLIST			
EXPECTED PROBLEMS What ..... When ..... Why	EXPECTED ACTIONS What ..... When ..... Who		
EVOLVING EVENTS			
ADVERSE EVENTS What ..... When	CHANGES TO PLANS What ..... When		
STATUS MID-SHIFT	STATUS END OF SHIFT		
**********			
DOCTOR'S NAME AND SIGNATURE	TIME AND DATE		

THE IPOBACE HAND-OVER METHOD

INTRODUCTIONS
PATHOLOGY
OBSERVATIONS
BACKGROUND
AGREE TO THE PLAN
CHECKLIST
EVOLVING EVENTS

All surgical patients IPOBACE summarized and handed over to Internal Medicine before World Cup Opening and Final Games

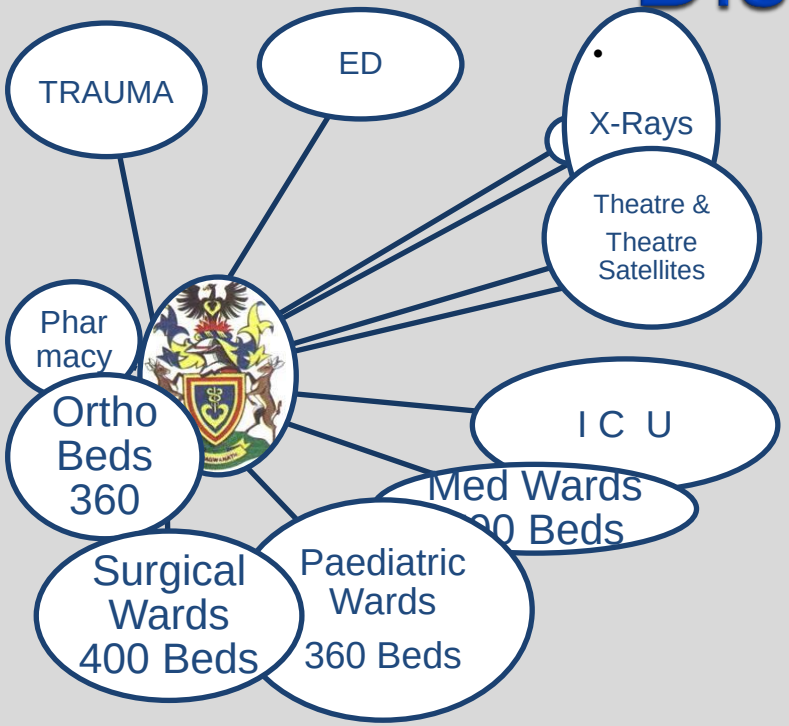
Free Interprofessional Trauma Triage Courses at CHBAH

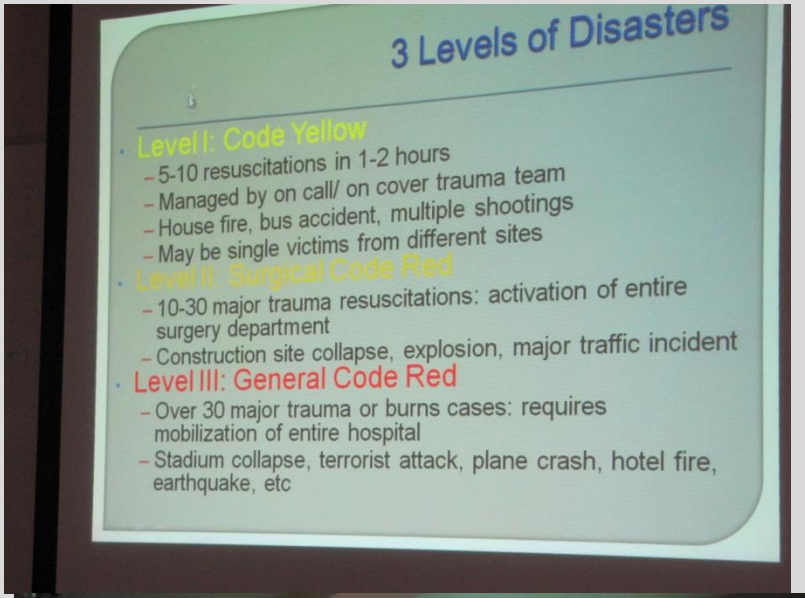
- Outline the trauma disaster plan for CHBAH
- Identify issues in interdisciplinary and inter-professional preparedness and response
- Clarify principles of hospital triage
- Familiarize with CHBAH equipment and resources
- Present resuscitation in a mass casualty incident
- Practice simulated assessment and resuscitation of multiple patients
- Prepare for future disaster drills

Standard Course programme

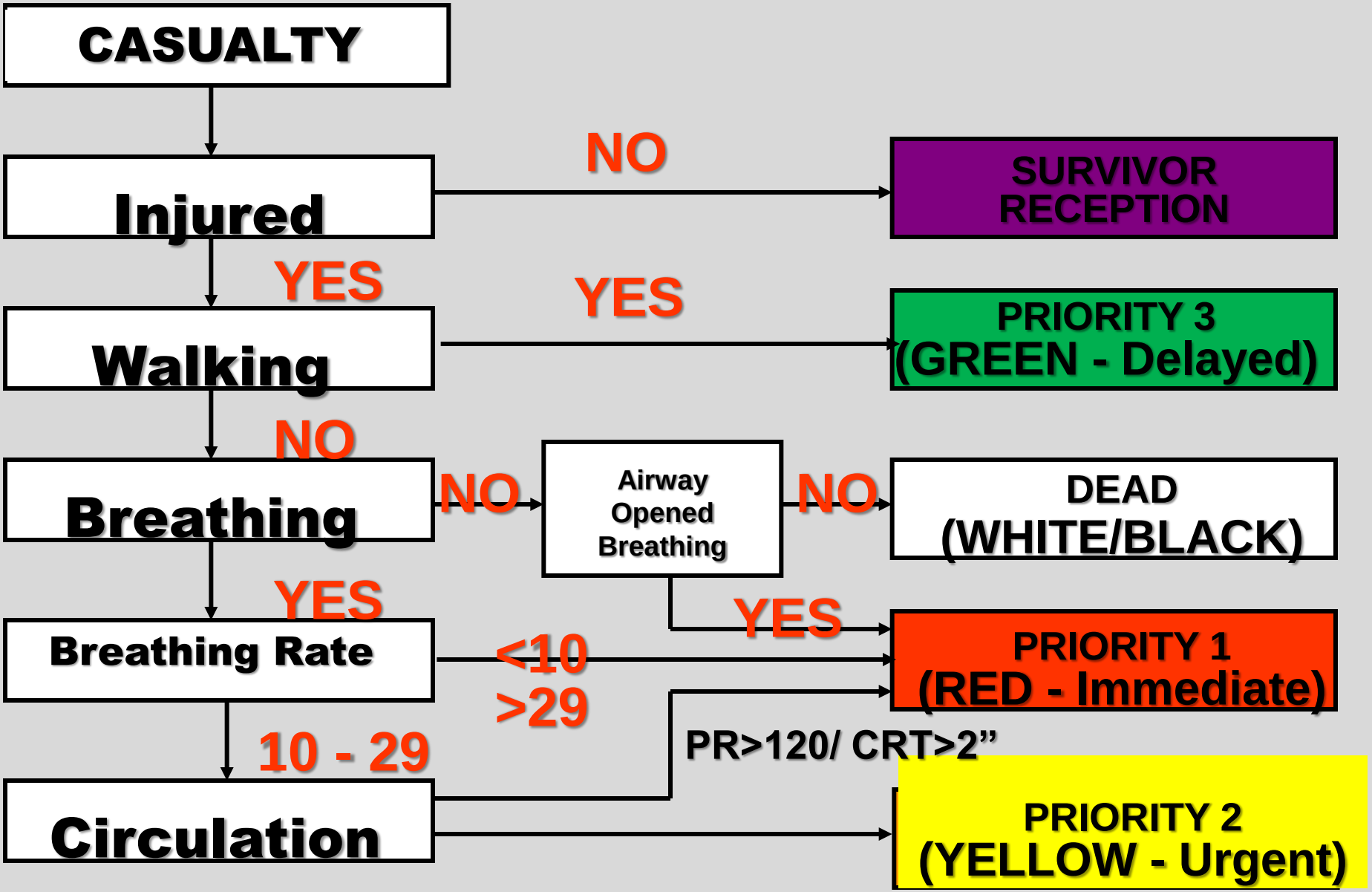
- 08:30- 09:30: CHBAH Disaster Plans and Protocols
- 09:30- 10:00: Principles of Triage and Standard of Care in Disasters
- 10:00-12:00: Multiple patient scenarios practice rotating groups
  - Triage scene outside ED: 40 untriaged patients
  - Triage scene in resuscitation room: 10 RED patients
  - Triage scene in ED: 10 YELLOW patients deteriorating
  - Triage scene in short stay ward: 10 POST-OPERATIVE patients deteriorating
- 12:00-13:30: Individual patient resuscitation, management
  - Demonstration of resuscitation
  - Primary, secondary, tertiary survey lecture
- 13:30-14:00: Visit to ED and demonstration of colour coded areas

Disaster plans triage





FIRST TRIAGE: TRIAGE SIEVE



HOSPITAL ENTRANCE

TRIAGE AREA

MEDICAL ED

TRAUMA ED

TRAUMA CUBICLES

TRAUMA ER

Pre-hospital triage and un-triaged patients: Triage Sieve

TRIAGE (If not done): HOSPITAL STREET

GREEN: OUTPATIENTS DEPARTMENT FROM THE BACK ENTRANCE

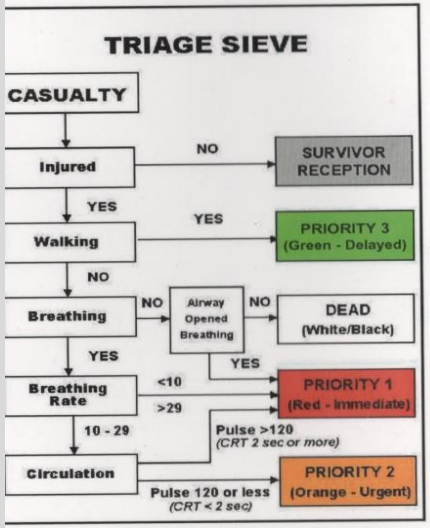
YELLOW: MEDICAL EMERGENCY DEPARTMENT

RED: SURGICAL/ TRAUMA EMERGENCY DEPARTMENT

Multiple patient scenarios

TRIAGE IS A DRILL, NOT AN INTELLECTUAL EXERCISE

TRIAGE SIEVE



TRIAGE

GLASGOW COMA SCORE

EYE OPENING	Coded Value
Spontaneous	4
To voice	3
To pain	2
None	1
VERBAL RESPONSE	
Oriented	5
Confused	4
Inappropriate words	3
Incomprehensible	2
None	1
MOTOR RESPONSE	
Obeys commands	6
Localises to pain	5
Withdraws to pain	4
Flexes to pain	3
Extends to pain	2
None	1

SORT

REVISED TRAUMA SCORE

GLASGOW COMA SCORE	Coded Value
13 – 15	4
9 – 12	3
6 – 8	2
4 – 5	1
3	0
RESPIRATORY RATE	
10 - 29	4
>29	3
6 – 9	2
1 – 5	1
0	0
SYSTOLIC BLOOD PRESSURE	
>89	4
76 – 89	3
50 – 75	2
1 – 49	1
0	0

PRIORITY	SCORE
IMMEDIATE	1 – 10
URGENT	11
DELAYED	12

MAJOR INCIDENT MEDICAL MANAGEMENT AND SUPPOR (MIMMS)

For information please contact:

Dr Denys Cato
Area Counter Disaster
Sydney South West Area Health Service
Locked Bag 7017
Liverpool BC NSW 1871
Australia

Phone 02 9828 5711
FAX 02 9828 6009

e-mail - denys.cato@sswahs.nsw.gov.au

THE HAZMAT CODE

1	Water Jets		
2	Water Fog	In the absence of Fog a fine spray may be used	
3	Foam		
4	Dry Agent	Water must not be allowed to come into contact with the material	
P	V	FULL	DILUTE
R			
S	V	BA	
S		BA Fire only	
T		BA	
T		BA Fire only	
W	V	FULL	CONTAIN
X			
Y	V	BA	
Y		BA Fire only	
Z		BA	
Z		BA Fire only	
E	Consider EVACUATION		

HAZMAT NOTES FOR GUIDANCE

FOG
In the absence of FOG equipment, a fine spray may be used.

DRY AGENT
Water must not be allowed to come into contact with the hazardous substance.

V
Can be violently or explosively reactive.

FULL
Full body protection required with Breathing Apparatus.

BA
Breathing apparatus and gloves.

DILUTE
Wash away with water – prevent entry to drains, water courses if possible.

CONTAIN
Prevent any spillage from entering drains or water courses.

REPORT FORMAT

E	Exact Location of Incident
T	Type of Incident
H	Hazards Present
A	Access to Site
N	Number and Type of Casualties
E	Emergency Services Present and Required

The 1 2 3 of SAFETY	
1	SELF
2	SCENE
3	SURVIVORS

PHONETIC ALPHABET

A	Alpha	T	Tango
B	Bravo	U	Uniform
C	Charlie	V	Victor
D	Delta	W	Whisky
E	Echo	X	X-Ray
F	Foxtrot	Y	Yanke
G	Golf	Z	Zulu
H	Hotel		
I	India	**NUMBER**	
J	Juliet	1	wun
K	Kilo	2	too
L	Lima	3	th-ree
M	Mike	4	for-we
N	November	5	fi-yiv
O	Oscar	6	six
P	Papa	7	sev-en
Q	Quebec	8	ate
R	Romeo	9	niner
S	Sierra	0	zero

Casualty Clearing Station or in-hospital: Triage SORT based on TRTS

Respiratory rate	**10-29**	**4**
	> 29	**3**
	6-9	**2**
	1-5	**1**
	0	**0**
Systolic blood pressure	**> 90**	**4**
	76-89	**3**
	50-75	**2**
	1-49	**1**
	0	**0**
Glasgow coma score	**13-15**	**4**
	9-12	**3**
	6-8	**2**
	4-5	**1**
	3	**0**

Triage Sort: Triage Revised Trauma Score (TRTS)

Respiratory rate	0 - 4
Systolic blood pressure	0 - 4
Glasgow coma scale	0 – 4
Total	**0 -12**

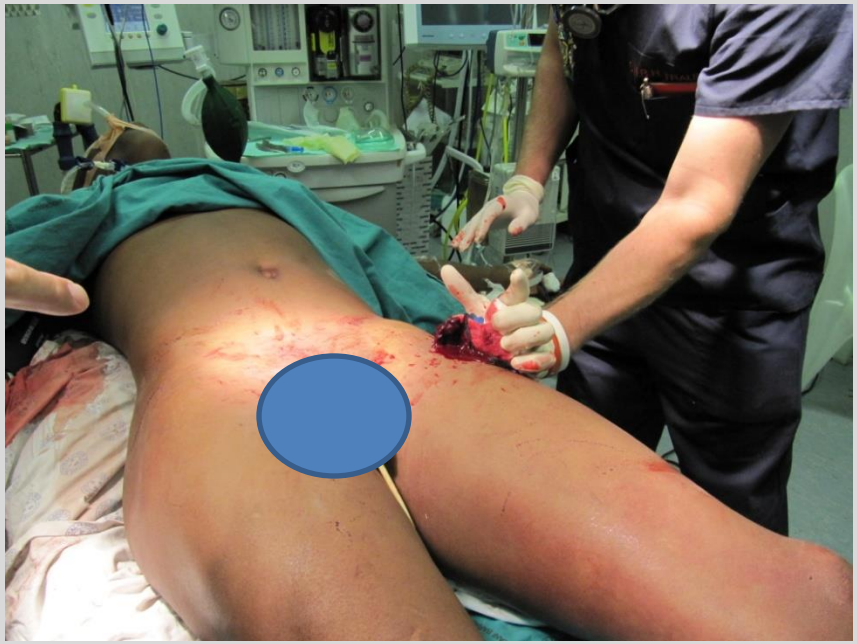
Who do you treat first (and last)?

Priority	Score
Immediate (RED)	1-10
Urgent (Yellow)	11
Delayed (Green)	12
Dead (Black)	0

III Triage: They are all RED, now what?

Now Think A B C D E

- **A comes before B**
  B comes before C
  C comes before D
  - **Only exception:**
    MASSIVE C
- **Actual before potential**
- **Physiology before anatomy**



2011 CHBAH DISASTER QUESTIONNAIRE

PERSONAL DETAILS, AVAILABILITY, ALLOCATION (Please Print)

NAME:……...TITLE…….POSITION/RANK……

MAIN DUTIES AT CHBAH……..…….……DEPARTMENT/ DISCIPLINE……...……

QUALIFICATION/S: ……WHEN: ……..……..WHERE……..……..……..…

ADDITIONAL QUALIFICATIONS/ COURSES:……..……..

MEDICAL: ☐SPECIALIST ☐REGISTRAR ☐M.O. ☐COM.SERV. ☐INTERN ☐STUDENT…...

NURSING: ☐R.N. ☐E.N. ☐E.N.A. ☐STUDENT……..

ALLIED PROFESSIONS: ☐PHYSIO ☐O.T. ☐PSYCHOL ☐SOCIAL WORK ☐ DIETICIAN

☐RADIOGRAPHER ☐ SPEECH THERAPIST ☐OTHER…… ☐STUDENT……

MOBILE……..……SPEED DIAL……EXTENSION AT CHBAH……

HOME LANDLINE……..E-MAIL……..……..……..

HOME ADDRESS……..……

DISTANCE TO CHBAH IN KMs……..AVERAGE TRAVEL TIME TO CHBAH ……..…….

DO YOU HAVE YOUR OWN TRANSPORT ☐ YES ☐ NO

ARE YOU PREPARED TO COME BACK TO CHBAH IF CALLED FOR A DISASTER?

☐ NO, NEVER ☐ YES, ANYTIME ☐ YES BUT ONLY ☐ DAYTIME/ ☐ NIGHTIME

TO WHICH AREA DO YOU THINK YOU SHOULD BE ALLOCATED IN A TRAUMA DISASTER?

☐ RED (IMMEDIATE CARE) ☐ YELLOW (URGENT CARE) ☐ GREEN (DELAYED CARE)
☐ OPERATING ROOM ☐ WARD PATIENTS ☐ ADMIN, GENERAL HELP

SECOND CHOICE:

☐ RED (IMMEDIATE CARE) ☐ YELLOW (URGENT CARE) ☐ GREEN (DELAYED CARE)
☐ OPERATING ROOM ☐ WARD PATIENTS ☐ ADMIN, GENERAL HELP

Course Assessment

- Interprofessional and interdisciplinary training is well established in the pre-hospital and emergency field, not in-hospital
- MIMMS and HMIMMS available only to few
- Most hospital health professionals will intervene only in areas in which they feel confident
- Most nurses do not have own transport at CHBAH and would not come out in a disaster
  - Allied health professionals possess high levels of clinical and assessment skills and are available

Who is going to carry out triage, assessment and resuscitation?

Basic teams with disaster training

- **ED/ ER Resuscitation teams**: 1 Junior doctor + 1-2 helpers (junior nurse/medical student/ physiotherapist/ student nurse/ volunteer)
- **Operating Theatre teams**: 1 surgeon or registrar + 1 helper that came with patient
- **Recovery Room teams**: 1 junior doctor + 1 helper that came with the patient
- **ICU**: ICU staff on stretched ratio as per internal protocol + 1 helper that came with the patient

- **Senior Medical and Nursing Staff from ED, Surgery, Trauma, anaesthetics are NOT allocated to basic teams, but to rotating specialized trolleys/ Operating Theatres**

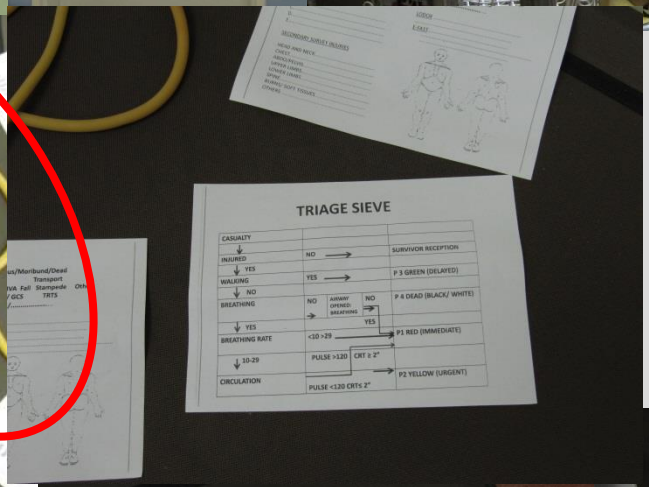
Assessment and Resuscitation in Disasters at CHBH

NO TRAUMA TEAM, YOU ARE ON YOUR OWN!

- ✓ Vertical resuscitation by junior doctor and helper
- ✓ Only basic tools to assess and treat patients
  - ✓ Assessment and resuscitation
  - ✓ Basic airway manoeuvres up to OP
  - ✓ Give oxygen where available
  - ✓ Stop bleeding
  - ✓ Drip and suck
  - ✓ Catheterize
  - ✓ Take and check bloods
- ✓ Utilize basic manoeuvres while awaiting help
- ✓ Prepare for specialized interventions as needed
- ✓ Use all equipment in disaster bag at the right time

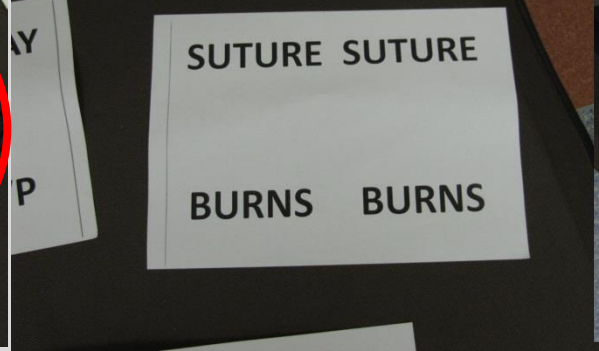
R1

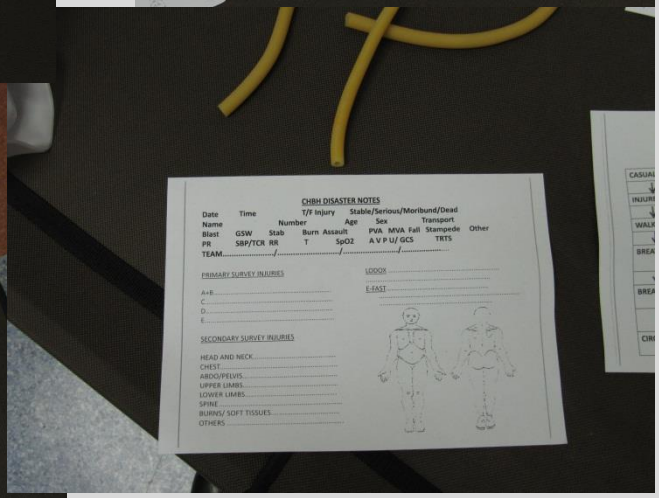
DISASTER ROOM


TRIAGE SIEVE
CASUALTY
INJURED
NO
SURVIVOR RECEPTION
YES
WALKING
P 3 GREEN (DELAYED)
NO
BREATHING
NO
AIRWAY OPENED/ BREATHING
NO
P 4 DEAD (BLACK/ WHITE)
YES
YES
BREATHING RATE
<10 >29
P1 RED (IMMEDIATE)
10-29
PULSE >120
CRT ≥ 2"
CIRCULATION
P2 YELLOW (URGENT)
PULSE <120 CRT≤ 2"

TRIAGE SORT

SPACE BLANKET
2mx1.1m
silver both side


SUTURE SUTURE
BURNS BURNS


CHBH DISASTER NOTES
Date Time T/F Injury Stable/Serious/Moribund/Dead
Name Number Age Sex Transport
Blast GSW Stab Burn Assault PVA MVA Fall Stampede Other
PR SBP/TCR RR T SpO2 A V P U/ GCS TRTS
TEAM...../...../...../.....
PRIMARY SURVEY INJURIES
A+B:
C:
D:
E:
LODOX
E-FAST
SECONDARY SURVEY INJURIES
HEAD AND NECK:
CHEST:
ABDO/PELVIS:
UPPER LIMBS:
LOWER LIMBS:
SPINE:
BURNS/ SOFT TISSUES:
OTHERS:

Utilize contents of disaster bags

PRIMARY SURVEY RESUSCITATION

Rubber gloves	6
Surgical masks	3
Disposable apron	3
Oxygen mask	1
“Ambu” bag and mask	1
OP Airways	2
Finger pulse oxymeter	1
Rubber tubing 1 metre	2
Cannulas	6
R/L litre bags	2
Blood giving sets	2
Abdominal swabs	5
“Sleek” strapping rolls	2
Crepe bandage rolls	2
Nylon 1 Colts suture	3
Triangular bandage	3

ADJUNCTS TO PRIMARY SURVEY

Space blanket	1
Urinary catheter	1
Nasogastric tube	1
Urine bags	2
K-Y Jelly tube	1
Manual BP machine	1

SECONDARY SURVEY RESUSCITATION

Artery forceps	2
Disposable scalpel	1
Rescue Scissors	1

RECORD KEEPING

Marking pen	1
Cardboard notes sheets	2
Plastic sheath	1

CHBH DISASTER NOTES

Date Time T/F Injury Stable/Serious/Moribund/Dead
Name Number Age Sex Transport
Blast GSW Stab Burn Assault PVA MVA Fall Stampede Other
PR SBP/TCR RR T SpO2 A V P U/ GCS TRTS
TEAM...../...../...../....

PRIMARY SURVEY INJURIES

A+B.....
C.....
D.....
E.....

SECONDARY SURVEY INJURIES

HEAD AND NECK.....
CHEST.....
ABDO/PELVIS.....
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OTHERS .....

LODOX .....
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E-FAST.....
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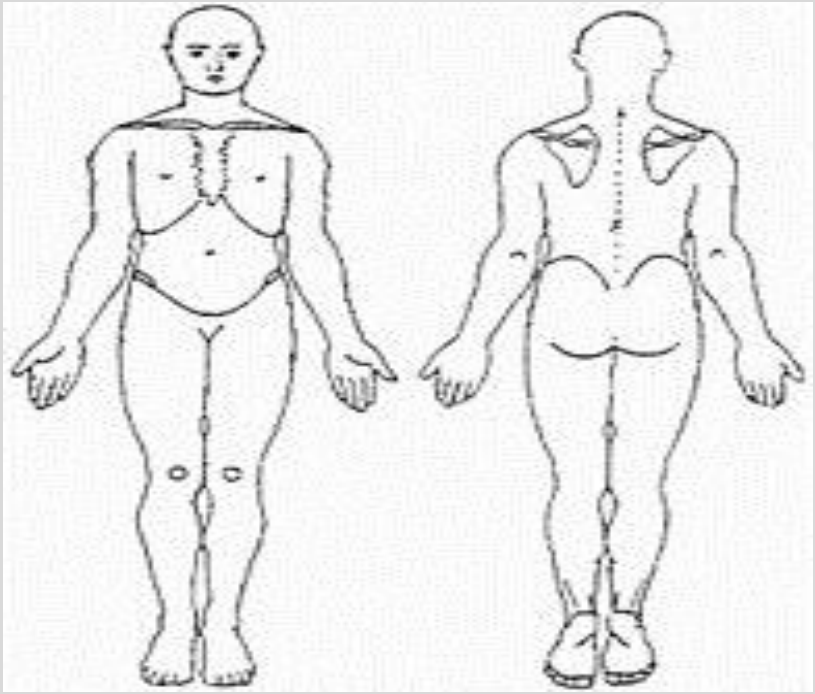


FURTHER MANAGEMENT

OBSERVATIONS .....

.....

.....

FLUIDS .....

.....

.....

INTERVENTIONS .....

.....

.....

PLAN .....

.....

.....

.....

.....

TIME LEAVING ED.....WHERE TO.....

NAME AND SIGNATURE.....DATE AND TIME.....

Intervention trolleys with bigger bags : Beyond Basic Interventions

PRIMARY SURVEY AND RESUSCITATION

1. Airway and ventilation trolleys
2. Intercostal drains trolley
3. CVP and DPL trolley
4. Portable ultrasound machines for E-FAST, optic nerve diameter, fracture assessment
5. Medications (i.e. Morphine and antibiotics)
6. Oxygen cylinders exchange
7. ECG machine
8. Arterial blood gasses (ISTAT portable machine)

SECONDARY SURVEY AND RESUSCITATION

5. Physiotherapy trolleys
6. Backslab and POP trolley
7. Mobile surgical trolleys
8. Burns trolley

What are you going to do in the operating theatre?

Does Disaster Damage Control Differ from Damage Control for standard indications?

FURTHER MANAGEMENT

- **CHBAH: 8 casualties can go to OT at a time**
- **Number taken to wards/ ICU: bed and staff dependent**
  - **Only 1 in 4 nurses on the disaster triage course have own transport**
  - **ICU reluctance to change nurse: patient ratio**
  - **Disaster adaptation: 1:2, and 1 ICU nurse supervising 4 non ICU nurses**
  - **1 ICU doctor supervising 4-6 non ICU doctors, 6 patients each**
- **“Disaster Bag” monitoring of casualties**
  - **Finger-tip pulse oxymeter, urine output, manual BP**

Operating Theatre Procedures

- **Only abdominal, thoracic vascular cases**
  - **Neuro and ortho cases not before 4 hours**
- **Only damage control techniques**
  - **Shunting of arteries, ureters, ligation of veins, ties around bowel holes/lumen, packing solid organs.**
  - **Abdomen: Vac-Pac without suction/ Bogota bag**
  - **Chest: Skin closure with intercostal drains**

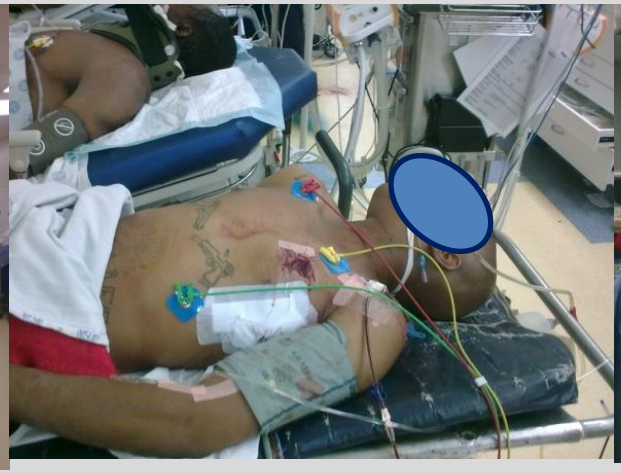
Differences with Standard Damage Control and Pitfalls

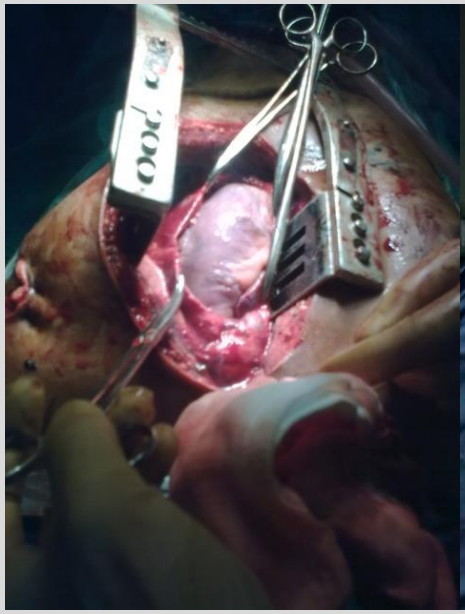
- **Patients will only be seen again after 4-5 days (Experience from 9/11, ICRC)**
  - **ICRC return to OT: after 5 days**
- **No suction, no daily ward rounds**
  - **Stomas preferable to tie and drop**
  - **Bulky absorbent dressings preferable to non existent suction**
- **Inadequate autonomous surgical expertise with registrars as primary operators**

Operating Theatre Adaptations

- Rotating trolleys with common items
- No floor nurses
- Sutures, ties, swabs, saline, suction, drains, colostomy bags go into “Disaster Bag” until induction
- All packs opened onto scrub trays on starting surgery
- Most operations under Ketamine/ fentanyl
- No diathermy machine?
  - Stitch-tie, pack
- Disposable drapes
- Book for re-look at end of surgery for 5/7
- Write adaptable fluid management for 5/7

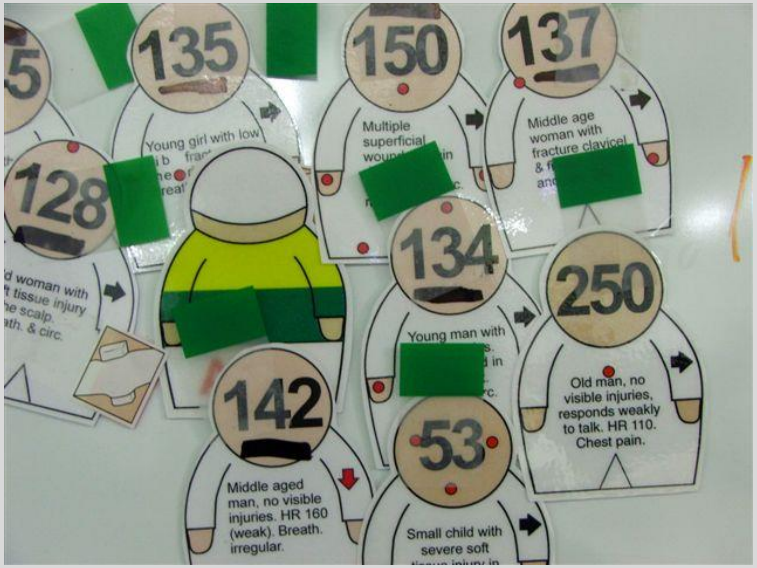
CHBAH 2010 Public Servants Strike: STABBED HEART WITH NO NURSES





And Now Onto Disaster Drills!!

- **Who Remembers The Last Disaster Plan?**
  - **How Many People Still Need To Be Trained?**
- **How Prepared Are We For A Disaster?**
  - **Can We Identify How To Improve On Shortcomings?**
- **Can We Use One Inexpensive, Comprehensive Method To Assess The Entire Hospital?**
  - **Can We Avoid Unnecessary Disruption To The Normal Hospital Activities?**
- **Can We Avoid Disaster Drill Disaster?**



If only we could afford Emergo Train!!

First Triage: SIEVE

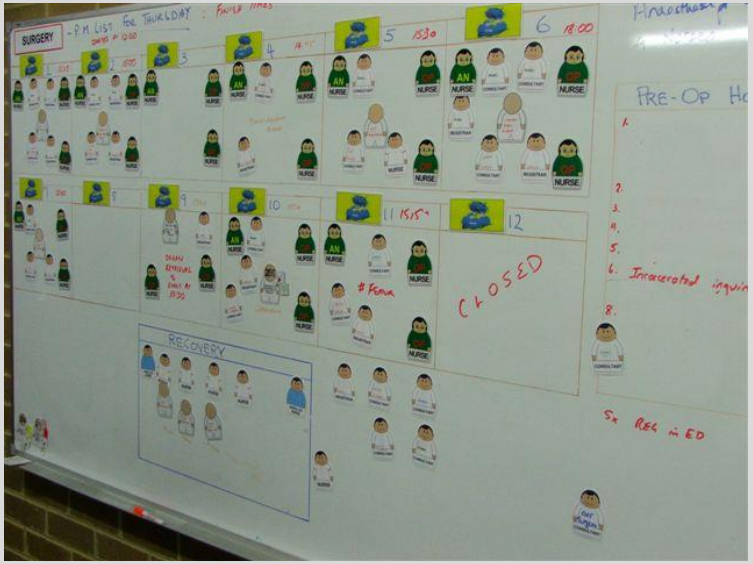
Emergo Train System Australia

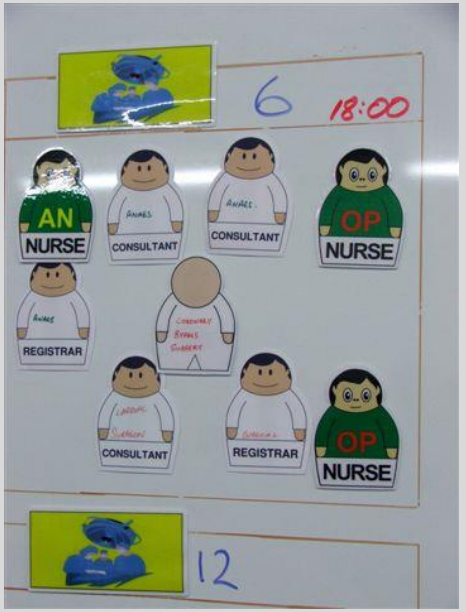
If you are busy, you cannot carry out other tasks!

1. **Patient assessment followed by decisions on interventions: Time taken to perform them is added up**
2. **Appropriate staff members (doctor, nurse, paramedic, first aider) allocated.**
    1. **That resource then stays with the patient until the time has elapsed.**

Operating Theatres

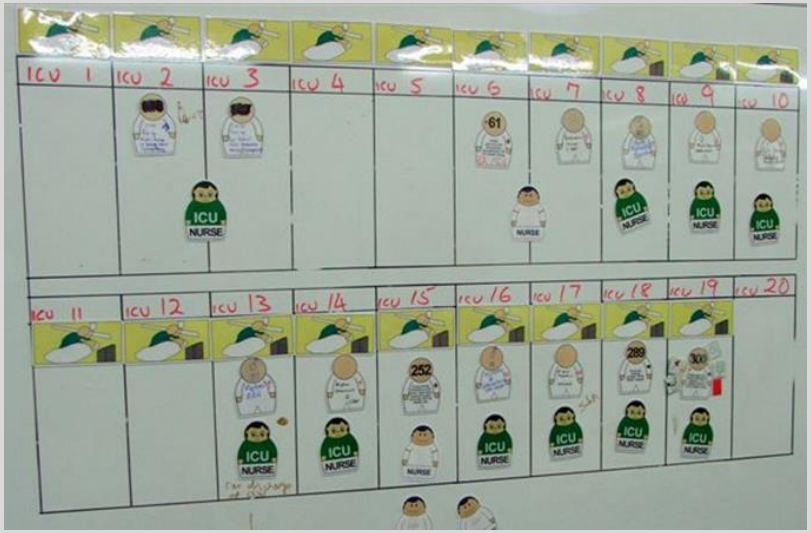
- **Prepared with the hospital's theatre list for the day of the exercise**
  - **Normal staffing (medical, nursing and any other staff.)**
- **Theatre work:**
  - **Will follow on from the Emergency Department subject to negotiation and prioritisation of the patients.**

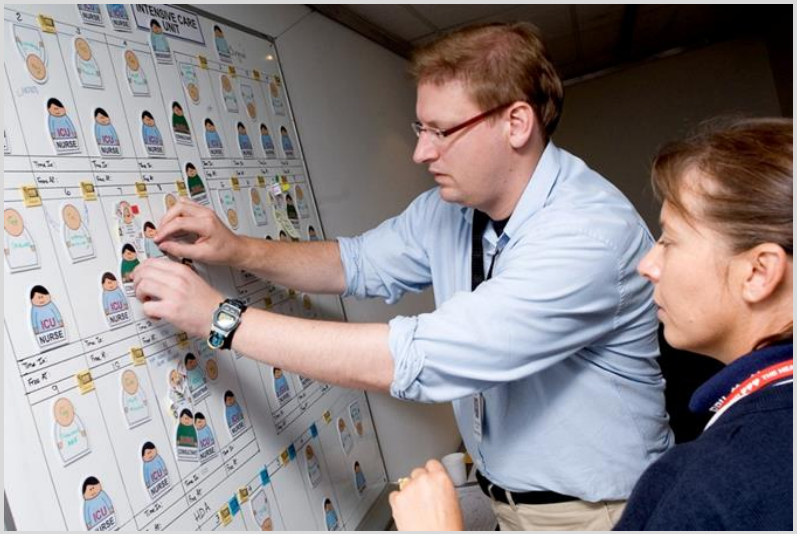




Intensive Care Unit / Wards or Units

- **Will need to be prepared with the patients in the areas on the day of the exercise, together with the normal staffing (medical, nursing and any other staff.)**
- **The work of the Unit/Area will follow on from the Emergency Department and Theatre subject to negotiation and prioritisation of the patients.**





Can you do it on the cheap, or better for free?

- 350 Simulated patients to assess initial triage, resuscitations, hospital staff, resources

CASE 62: MORTAR ATTACK MULTIPLE #, UNCONSCIOUS, SHOCKED
RR 30 HR 124 BP 89/45 GCS 9/15

RED		YELLOW	GREEN		BLACK
ACTION	TIME	STAFF	ACTION	TIME	STAFF
INTUBATION	5	2	SPLINT	5	1
ICD	5	1	DPL/DPA	10	1
E-FAST	5	1	DRIPS	3	1
CVP	5	2	CATHETER	3	1
LODOX	5	1	NG TUBE	3	1
SUTURE	10	1	ERT	20	2
DRUGS	2	1	PACK FACE	10	2
TOURNIQUET	2	1	DRESS BURNS	20	2
TOTAL			TOTAL		

ADVANCED INVESTIGATIONS

INTERVENTION	TIME	SPECIALTY	STAFF	OUTCOME
CT SCAN	10	X-RAYS	2	
ANGIO	20	X-RAYS	2	
OTHER				

OPERATING THEATRE INTERVENTIONS

YPE OF URGERY	DURATION	STAFF 1	STAFF 2	ARRIVE OT	LEAVE OT

POST OPERATIVE DISPOSITION

WARD OR UNIT	DURATION	STAFF
ICU		
HIGH CARE		
TRAUMA WARD		
OUTLIE		
OTHER HOSPITAL		
HOME		

CASE 86: SHOT THROUGH L EYE, # SKULL, CONFUSED BUT AIRWAY MAINTAINED
RR 18 HR 116 BP 134/85 GCS 11/15

RED			YELLOW			GREEN			BLACK		
ACTION	TIME	STAFF	ACTION	TIME	STAFF	ACTION	TIME	STAFF	ACTION	TIME	STAFF
INTUBATION	5	2	ICD	5	1	SPLINT	5	1			
E-FAST	5	1	CVP	5	2	DPL/DPA	10	1			
LODOX	5	1	SUTURE	10	1	DRIPS	3	1			
DRUGS	2	1	TOURNIQUET	2	1	CATHETER	3	1			
TOTAL						NG TUBE	3	1			
						ERT	20	2			
						PACK FACE	10	2			
						DRESS BURNS	20	2			
						TOTAL					

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ICU		
HIGH CARE		
TRAUMA WARD		
OUTLIE		
OTHER HOSPITAL		
HOME		

RECOMMENDATIONS

- Basic, in-service disaster training must be provided to all health professionals at CHBAH
- A half-day course, provided free of charge by the Trauma Directorate, allows staff at all levels to identify areas of confident interventions
- Basic training on primarily nursing skills needed in trauma disasters should be given to all health professionals
- Doctors, allied professionals, nurses on duty and those residing at CHBAH or with own transport should form the early response teams
- Nurses without transport will contribute to subsequent shifts

Conclusions

- Hospital disaster preparedness is often lacking in LMICs
- Resources are routinely overstretched
- Minimum requirements for disaster plans:
  - Administrative and political commitment
  - Interdepartmental dissemination and cooperation
  - Extensive hospital interprofessional training
  - Dedicated tools and supplies for disasters
  - Some financial commitment
- Planning, training and stockpiling are possible even on a very limited budget
- Drills should involve and test the entire hospital structure, both in terms of knowledge and resources